The Journal of the American Medical Association

VOL. XXXIII CHICAGO, ILLINOIS, AUGUST 19, 1899. No. 8.

Original Articles.

THE PNEUMONIA QUESTION.

SOME INTRODUCTORY CONSIDERATIONS.*

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Pneumonia is the greatest medical problem of the day. In temperate regions it is chargeable with more deaths than any other disease, with a single exception—only pulmonary tuberculosis leading it in the mortality bills. It is, moreover, one of the most dangerous of the acute diseases and has an appalling death-rate. It is not only a malady which is ubiquitous, frequent, severe and dangerous, but now, in these waning days of the 19th century, we must frankly confess that its prevalence, frequency, severity and dangers have not been one whit diminished by our immediate predecessors or ourselves.

In opening the discussion on this important question it will be clearly impossible for me to cover, however superficially, the entire subject, or even to deal exhaustively with any part of it. My endeavor, therefore, shall be to consider, suggestively if possible, a few of the numerous practical points which seem to be of greatest present interest.

In order that there may be no confusion or misunderstanding it may be well for me to state that my remarks will refer to one malady, ordinary pneumonia—febris pneumonica—an acute infectious disease of bacterial origin, having well-defined symptoms and positive anatomical changes; an affection which is readily recognizable during life and leaving unequivocal evidences of its presence after death.

In typical cases the access is sudden, with a chill, followed by fever, pain, cough, characteristic expectoration, increased frequency of respiration, disturbance of circulation, changes in the blood and urine, and evidences of the solidification of one or more lobes of the lungs. The disease quickly attains a high degree of severity and steadily maintains this for about a week, with rapid entrance upon convalescence while the lung is yet completely hepatized; or death in a few hours after the onset of alarming symptoms. Post-mortem section shows the affected pulmonary area peculiarly inflamed, with the alveoli filled with a solidified fibrinous exudate and the pleural covering the seat of a sero-fibrinous inflammation. In the expectoration and in the alveolar exudate is found the etiologic morbific organism.

The essential cause of pneumonia is the diplococcus pneumoniæ—the pneumococcus of Fränkel. This assertion can be made, at this day, and before this audience, without appeal to either argument or authority.

The pneumococcus is rounded or tapered at both ends and has a mucinous capsule. It is found single, often paired, or frequently in groups, enclosed in the same or in adhering capsules. It colors readily with aniline dyes and is not affected by the Gram method. It is cultivated with difficulty, and much care is required to obtain pure growths. It does not lend itself kindly to saprophytic existence, and has not yet been found in the air. It will not grow in acid media and cultures produce an albumose and an acid. Its capsule is lost by cultivation. It varies in size, appearance and virility. Its virulence diminishes as convalescence advances. It loses virulence by cultivation, but this may be restored by passage through the rabbit. An organism which can not now be differentiated from the pneumococcus is present in the mouth and upper air-passages in a large proportion of healthy persons. Diplococci from the mouth are less active and can not be made as virulent as those from pneumonic sputum or exudate. To round out our knowledge of the pneumococcus we need definite answers to the following questions: Is the diplococcus found so frequently in health in the mouth and upper air-passages identical with that found in the pneumonic exudate and sputum? If so, how does the organism obtain entrance into the mouth and nostrils? Has it a wide-spread saprophytic existence, finding its way into the body with the inspired air, or does it pass from one person to another only by direct conveyance of the moist or dried secretions? If it is not identical, whence comes the pneumococcus, and what is its life's history outside the body? What measures can be instituted to destroy the germ outside the body, prevent its entrance into the system, or render it innocuous after entrance? Any intelligent prophylaxis will depend upon full and complete answers to these questions.

The blood is markedly and distinctively altered by the pneumococcal infection. As the attack advances, the specific gravity and hemoglobin are increased, to fall to or below the normal for the individual as resolution progresses. The white blood-corpuscles, especially the polynuclear cells, are usually largely increased in number. This leucocytosis begins as early as the chill, and may be of diagnostic value in those cases in which the inflammation begins deeply within the lung. It corresponds roughly with the extent of pulmonary involvement, the temperature curve and the vehemence of the attack. Its continuance after crisis often indicates the presence of complications. The presence of leucocytosis has no great prognostic value, but its absence, except in the very mildest cases, is an ominous circumstance. The consensus of opinion seems to be that there is an advance into the general blood-current of pre-existent leucocytes and not a greatly increased formation of these cells. Does leucocytosis protect the blood current from the pneumococcus and its toxins? It may be that the near future will demonstrate that the leucocytes form a large and effective portion of the sanguinary army of defense, acting as bacterial phagocytes, by saturating the serum with protective and neutralizing and germicidal substances—a hidden force, held in reserve in the

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

lymph-spaces or by contracted capillaries, ready to rush out and do battle with the first appearance of the pneumonia foe.

The fibrin, or fibrin-forming material, is greatly increased, probably running parallel with the leucocytosis. The proportion of fibrin in the shed blood, which in health is 2 or 3 parts per 1000, rises at the height of the attack, to 4, or even 10 parts per 1000. The density of the network of fibrinous threads in cover-glass preparations is notably increased, and if the Thoma-Zeiss cell is employed the estimate of comparative coagulation may be fairly accurate. The rouleaux formation of red blood-corpuscles upon the slide is due in the presence of an agglutinating substance, presumably fibrin, and in pneumonia rouleaux formation is exaggerated. If healthy blood is acted upon by pneumonic serum rouleaux formation is also exaggerated, with a pecular clumping of cells, which latter, however, is not distinctive.

Cardiac thrombosis is met with oftener in pneumonia than in any other disease, and is one of the most serious contingencies which may occur. In analyzing the records of 777 pneumonic post-mortem examinations, I found that ante-mortem heart-clots were present in 169, or 21 7 per cent. If we assume that the death-rate of pneumonia is about 21 per cent. and that all the cases with thrombosis are fatal, we may conclude that ante-mortem clotting of blood in the heart occurs in about 4.5 per cent. of all cases. These clots may be small or they may be so large as to weigh up to two ounces; they may be a mere patch upon the endocardium, a rounded mass within one of the cavities, or a thick or thin elongated clot originating in the auricle, passing through the ventricle and extending several inches into the afferent vessels on one or both sides. Although a cardiac thrombus may become organized or, possibly, undergo solution, with recovery, yet the fact remains that post-mortem examinations of persons recently subjects of pneumonia do not, with very rare exceptions, disclose such conditions. We must infer, therefore, that the formation of such a thrombus is an event which usually leads to death. The condition is seldom recognized during life, and here is a diagnostic problem of great practical importance which the clinician is called upon to solve.

The blood may, and probably always does, contain pneumococci. If they are present in sufficient numbers to be readily found during life, the case is attended with more than ordinary danger, and if they are numerous, death within twenty-four to forty-eight hours is the rule.

The toxemia of pneumonia is due to the development of pneumococcal toxins and, probably, antitoxins; to destructive changes in the normal constituents of the blood: to the withdrawal, by the exudate, of important elements; to diminished aëration; to contamination by the excessive waste products of the body in general and of the inflamed lung in particular; and to interference with excretion.

The hemic changes affect particularly the nervous system. The initial effect of the pneumococcus toxins, necessarily infinitesmal in amount and diluted beyond computation, upon the thermogenic center is to produce a profound chill and incite a raging fever. The vasomotor system of nerves is instantly affected. The pulse is accelerated in direct proportion to the danger. A comparatively slow pulse is of good import, while very few adults will recover after the 140 mark has been gradually reached and crossed.

The arterial tension is always lowered, the diminution measuring with accuracy the severity and danger of the case. This lowering of arterial tension is due to capillary paresis, and not to any primary heart failure. This selective inhibiting action upon the vasomotor system is one of the most remarkable effects of the pneumococcus toxins. Whether the primary action is upon the terminal nerve-fibers in the vascular walls, or upon the vasomotor center in the cerebral extension of the spinal cord, I am not prepared to say. The fact remains that the arterioles and capillaries are relaxed, and in serious cases they are so paretic as to afford the slightest resistance to the passage of blood through them. In many serious cases of pneumonia careful observation will show that the contracting left ventricle is throwing blood into nearly empty arteries and that this fluid passes through the capillaries with such force that the veins beyond pulsate, as may be easily detected in the dependent hand. The body is nourished by the osmosis of fluid portions of the blood through the capillaries, the rate being regulated by a delicate adjustment of the intravascular tension. Under the circumstances above mentioned every tissue of the body must lack in nourishment, the heart, because of the source of its blood-supply, perhaps more markedly than other parts. It may be said, and possibly with truth, that the relaxation of the capillaries is a defensive measure intended to prevent the poisoning of tissues without, but, in any case nutrition fails, the soft tissues become loaded with the poisons of their own waste and the patient falls between the lines of his two enemies. Herein, I believe, lies the most imminent danger, and the chief determining cause of death in pneumonia.

The interesting and important questions which cluster around such of the phenomena of this disease as the forcible contraction of the heart against an increased resistance on one side and a diminished resistance upon the other; the increased frequency of respiration, irrespective of the extent of the hepatization and out of proportion to the exaltation of temperature; the peculiar character of the expectoration; the diversion of the chlorids from the blood to the exudate; the suddenness of symptomatic convalescence while the lung remains solidified; the uniformity of the symptomatology in general; and others of equal moment, must be passed for lack of time.

A moment's attention, however, is asked to two symptoms of prognostic import: During the pneumonic attack reflex sensations are weakened in proportion to the danger. Now, a dyspnea, which is readily recognized by the observer, but which is not appreciated by the patient, is of grave augury, and when accompanied by a rising and falling of the trachea and a non-obtrusive clicking noise with respiration, which persists after coughing, the patient has, in my experience, invariably died. The prognostic value of this syndrome lies in the fact that it antedates all others which certainly denote the approach of death. On the other hand when, late in the attack, the patient wakens from a sound sleep and sneezes, his safety may be assured.

The death-rate of pneumonia is very great. Eight years ago I published a table showing the mortality of pneumonia, embodying the statistics of 223,730 cases, of which number 40,276, or 18.1 per cent. died. This inquiry has been continued, and I have collected 134,705 other cases, with a mortality of 37,715, or 28 per cent. My full table now comprises 358,435 cases, with 77,991 deaths, or a death-rate of 21.7 per cent. From a careful consideration of the materials upon which these statis-

tics are based, I am convinced that the mortality-rate here shown is not overestimated.

Fatal cases of pneumonia are readily divisible into three classes: 1. Those in which the pulmonary involvement is so extensive, or the toxemia is so profound, or because of other conditions, we instinctively feel, from a clinical stand-point, that death was inevitable. 2. Those in which, upon post-mortem examination, we stand astounded that life should have been so long continued in the face of the most extensive involvement and destruction of vital organs. 3. Those in which the clinical phenomena and morbid changes in the tissues are of such slight extent and degree as to excite our wonder why and how death occurred.

There is an art, as well as a science of medicine, and, usually, medical inquiries end in the consideration of methods of management. In pneumonia the treatment should resolve itself into reasonable prophylaxis; in making the patient comfortable; in preventing excessive formation of toxins, in neutralizing them, in encouraging their elimination and increasing the resisting powers of the system against their action; in preventing, or managing properly, the complications which may arise. I regret that time will allow me to consider, cursorily, only one of the many interesting and important questions here presented.

Bleeding in pneumonia has been discussed for so many generations and from points of view so diverse that I approach the subject with reluctance, and it is only because I believe it a remedial resource which has no efficient substitute that I ask you to consider it at this time. It is not desirable that the former routine treatment of pneumonia by excessive bleedings should ever be restored to professional favor, yet I am sure that the physician who wholly abstains from venesection deprives his patient of a most potent remedy.

Venesection is not necessary in every case of pneumonia, and the patient, time and conditions should be carefully selected. The very young and the very old, the weak and the anemic, should not, as a rule, be bled; nor should those in whom the evidences of obstruction of the pulmonary circulation, or of increasing toxemia, is not marked, but in others in whom these conditions exist, the lancet should not be spared.

With an obstructed pulmonary circulation there is a damming back of the blood into the right cavities of the heart and general venous system. The pulse is not rapid and has considerable tension; the breathing is oppressed, accelerated and laborious; the patient is alarmed, and his anxiety is depicted in his countenance. This condition is usually met with only early and in plethoric and robust patients. In my experience the relief afforded in such cases by venesection has been immediate and remarkable. Should the patient have passed into a dull or comatose condition with the first brunt of the attack, imminent danger is clearly present. Here successful treatment depends upon ridding the system as speedily as possible of the poisonous matters circulating in the blood and overwhelming the central nervous system, and free bleeding is the remedy par excellence.

In another and much larger class of cases the patient successfully withstands the first onslaughts of the disease, but after a few days shows the indubitable signs of a profound toxemia, in a pulse which gradually increases in frequency while it loses in sustained force; in a high temperature; in restlessness and delirium; in sallowness or duskiness of the surface, and these cases demand not only venesection, but a cleansing of the blood as well. If blood is simply abstracted from the general circulation, the serum is quickly replaced by the absorption of fluids from the soft tissues. At this stage of the disease, however, these fluids are loaded with toxins and leucomains and bleeding alone may fail in its object as a blood-purifier. But if, in addition to venesection there is introduced into the circulation a bland and nox-toxic fluid, equivalent in quantity to that withdrawn, we not only remove a great and oppressive quantity of offending material, but we dilute that which remains behind.

The method of procedure is of importance. My own practice is as follows: Venesection, to the extent of removing from four to sixteen or twenty ounces of blood, is done. If the symptoms of intoxication are profound, or if it is clearly evident that the patient will, and does, bear well the loss of blood, the bleeding should be a free one. If, on the contrary, opposite conditions prevail, the amount of blood withdrawn should be small. Indeed, in some of these cases, with profuse perspiration, free excretion of urine or, perhaps, diarrhea, bleeding many be omitted.

Simultaneously with the venesection, or immediately before or after, a solution, in distilled water, of chlorid of sodium, .7 per cent., chlorid of potassium, .23 per cent. and chlorid of calcium, .03 per cent., is injected, subcutaneously, in quantity approximating that of the blood withdrawn. Often four or six ounces may be injected later, and repeated at intervals, according to the effects produced. The injections are multiple and are made with a large-bore needle, preferably by gravity, into the subcutaneous tissues of the chest. The fluid is warmed, and ordinary precautions are taken. In some cases high enemata of the saline solution may be substituted for the subcutaneous injections, and, when well borne and retained, with equally good results.

If this method is followed as detailed it is quite free from danger. I have employed it in a number of cases and have seen absolutely no undesirable results—no chill; no rapid rise nor profound fall of temperature; no restlessness nor excitement; no collapse. On the contrary there has usually followed a gentle or profuse, but warm, perspiration; a free action of the kidneys; a clearing of the intellect and an abatement of cerebral excitement; a lessening of dyspnea; an improvement of the circulation. Such has been my experience when these measures have been resorted to in the early stages of the late toxemia, but if they have been delayed until evidences of approaching death were manifest the effects have been negative. In the one case the results of treatment have been satisfactory, and a fair proportion of patients have recovered; in the other they have, with this, as under every other plan of management with which I am acquainted, uniformly died.

In parenthesis: From first to last in pneumonia the vasomotor system, as reflected in the state of the capillaries, must be given assiduous attention. Failure in this direction, with capillary paresis, should be anticipated and met with efficient doses of digitalis and strychnia, and an occasional, carefully gauged, dose of morphia.

In conclusion: In spite of the fact that the ordinary management of this affection, in times past—recent as well as remote—has been, on the whole, signally unsatisfactory, and that that in vogue today is scarcely a promise of the advances of tomorrow, I believe that the immediate future will demonstrate pneumonia to be, certainly, a preventable and, largely, a curable disease; and that, in this field, the morning light of the 20th

century will see every reasonable hope of medical optimism abundantly realized.

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[The series of papers on Pneumonia will be completed next week, when discussion will follow.]

THE BLOOD IN PNEUMONIA.*

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In discussing this aspect of the question before the Section I shall address myself only to the clinical examinations of the blood possible to the general practitioner. The bacteriologist has been able to isolate the pneumococcus from the blood of pneumonic cases, especially such as are complicated by secondary infectious foci; but this can only be accomplished by skilled investigators and in clinical laboratories. Similarly, the determination of the amount of fibrin in the blood is a matter that must be left to proficient chemists. The French have taught that the quantity of fibrin may be determined by a study of the reticulum formed under a coverglass. This teaching is certainly very far from accurate. Even if the method were reliable, the quantity of fibrin in the blood is of little practical importance. The recent studies of Pfeiffer and others have shown that there is a notably increased amount of fibrin in the blood in leucocytosis, but there are many causes of leucocytosis and there is nothing pecular to that of pneumonia, as far as its influence on fibrin is concerned. We are limited then in our study of the blood of pneumonia to the ordinary clinical examinations.

The points of importance that have been recognized by writers and investigators are these: In croupous pneumonia and in bronchopneumonia there is usually leucocytosis. This varies in degree and in duration. When the disease subsides, the leucocytes return to the normal number more or less quickly. There is rarely a critical decline in the leucocyte count comparable to that in temperature, further it is known that the leucocytosis is of the active polymorphous variety of Ehrlich, that is the actively ameboid corpuscles are increased more than the other forms—in other words, the leucocytosis is a chemotactic one. The eosinophilous cells are usually greatly reduced in numbers and some have claimed that they are absent. Finally, there is an undoubted relationship between the leucocyte count and prognosis, cases in which the number of white cells is normal or subnormal usually terminating fatally.

These facts have all been established, and in the main my observations tend to confirm each one of them. Going back somewhat to the consideration of the nature of leucocytosis, I may state with positiveness that this condition, at least when of the forms described in pneumonia, is the result of chemotactic influences. The toxic substances elaborated by the pneumococcus are positively chemotactic and attract to the circulation the ameboid polymorphous corpuscles. This, however, does not express all of the conditions, else there would probably be leucocytosis in every case. The additional element is the reaction of the tissues themselves to the irritant influence of toxic agents. I can not now go into the matter of the pathogenesis of leucocytosis at length, but suffice it to say that experimenters have been able to demonstrate that varying systemic conditions and varying doses of toxins, such as that of the bacillus pyocyaneus, occasion different grades of leucocytosis. As a matter of practical experience, it has been found that when the systemic condition is bad, and the dose of intoxications over-powering, leucocytosis does not occur. This is an all but uniform relation; but that it is not universal appears from such cases as one under my observation in which a man of 24 years of age, with pneumonia of the left base, made a speedy recovery, with crisis on the eighth day, though his leucocyte count was only 6000. It is possible, of course, that in such instances, the absence of leucocytosis was due to mildness of the systemic intoxication, rather than to the general condition. It must not be forgotten, however, that the leucocytosis may be directly advantageous.

The opinion of bacteriologists, even in Germany, is moving in the direction of Metchnikoff's theory, and it is not improbable that the leucocytosis of pneumonia is a conservative process. Some color is lent to this view by the results obtained by the induction of artificial abscesses and leucocytosis in the treatment of pneumonia. This treatment, suggested by Fochier and first practiced by Lepine, consists in producing local suppuration by injection of turpentin. There results a leucocytosis that may have some connection with the favorable results of the treatment. In one case in which I employed it on account of delayed resolution, the good result was apparently due directly to this treatment. This result, however, might be due to the local relief afforded by abstraction of large numbers of leucocytes from the lungs rather than to phagocytic influence.

I must, however, return to the practical clinical observations in pneumonia. It has been found, as I have stated, that leucocytosis is usually an indication of an unfavorable outcome. The reverse, however, can not be asserted. I have repeatedly seen death occur in pneumonia, particularly in children, when there was enormous leucocytosis. One case in an adult in whom there were 30,000 leucocytes per c.mm. and 98.5 per cent. of polymorphous leucocytes, and another in a child in whom I found 80,000 white cells, may be cited.

As to the differential count, little can be said in addition to what has been said. The leucocytosis is simply of the ordinary inflammatory type. In some cases, I have found a considerable proportion of eosinophilous cells, but in the great majority these forms are reduced in number.

I have not spoken of the attempts to produce an antipneumococcic serum, because this subject is after all largely in the experimental stage, and no practically useful results have as yet been obtained.

[The series of papers on pneumonia will be completed next week, when discussion will follow.]

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

PNEUMONIA OF THE AGED.*

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This paper is presented with no expectation of its offering anything new, but because the importance of the subject should lend it interest. This importance arises from the fact that pneumonia is far more prevalent among old people than is generally supposed, while the mortality for which it is responsible is so great that in the language of William Osler, "pneumonia may be said to be the natural end of old people in this country." Moreover, the phraseology of the title "pneumonia of the aged" rather than "in the aged" was

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chosen because of my conviction that the form which so mercilessly strikes down those already enfeebled by senility is due to the pneumococcus and not to an extension of bronchitis. We have been so accustomed to think of the intimate association of old age and bronchitis in the causation of catarrhal pneumonia that I fear the statement in the foregoing sentence will impress many as extreme. For years my conception of the pathology of the affection under consideration was dominated by the statements of earlier writers, that bronchopneumonia is likely to attack either extreme of life as the result of extension of bronchitis.

I do not wish to ignore the occurrence, nay, the frequency, of bronchopneumonia in the aged. I would only insist that when it occurs it is caused by pneumococcus or other infection and should not be regarded as an extension of an already existing bronchitis. Nevertheless, it is my conviction that the pneumonia excited by the pneumococcus is lobar rather than lobular, and that a failure to clinically distinguish these two forms may readily occur because the lobar pneumonia is not frank and typical in its manifestations. It is attended with profound exhaustion and debility, and in other respects displays a symptomatology not unlike that of the lobular form. Moreover, its physical signs are so often obscured by an associated bronchitis as to make it still more closely resemble a catarrhal inflammation. Finally confusion of one with the other may be favored in those cases in which bronchitis precedes, indeed, prepares the soil for the development of the lobar pneumonia. In a word, although the decrepitude of old age predisposes to bronchopneumonia, nevertheless, the form that chiefly attacks aged persons the same as hearty young adults is lobar.

Its prevalence is well shown in the statistics collected and published by E. F. Wells[1] as follows: Of 12,147 cases in 1889, from fourteen different authors, 11 per cent. occurred in persons over 60. In proportion to other diseases in persons over 60, 29.2 per cent. were cases of pneumonia. Per 1000 of population 10.36 per cent. of persons died of pneumonia, whereas of all ages together below 60 only 8.38 per cent. died of this disease. A further study of the figures collected by Wells shows that the mortality from pneumonia in old age exceeds that of any other. Of the authors thus tabulated the range of mortality is from 10 to 80 per cent. some being manifestly too low as others are too high. Wells himself gives it as his opinion that the death-rate is probably from 60 to 75 per cent. This is truly awful, and when one considers also the very great prevalence of this malady among the senile, it is obvious how just is Osler's statement that pneumonia is the special enemy of the aged.

These considerations emphasize the importance of an early recognition and prompt treatment of this disease in the old. The prime essential in its diagnosis is the remembrance of the fact stated by most authors that senile pneumonia is often latent and comes on insidiously. It may be ushered in by a chill or ill-defined chilly sensations, a chilliness creeping up the back, but often these sensations are too indefinite to attract attention. Sometimes there is nothing more than coldness of the extremities and nose, which we all know is a common experience on the part of old people with feeble circulation. Likewise pronounced rigors may or may not be present, or there might be a slight shivering, or even this last may escape attention. In short, the onset of the disease may be declared by nothing more marked than a feeling of malaise or unusual lassitude, in consequence of which the patient takes to the bed. Such was the declaration of one case seen by me recently in a lady of 78. Pain is also a very variable symptom, as to seat, character and intensity. In some persons it may be absent altogether; in others it may be a quite characteristic cutting pain in the affected side; by some this may be complained of in regions below the diaphragm—in the epigastrium or hypochondrium—while not infrequently aching pains "in the bones" may be felt in the back and legs, with stiffness of the joints. Similarly there may be all possible gradations in the severity of these diverse pains, from mildness to a degree of almost unbearable severity causing the patient to groan or even cry out. The patient mentioned above declared she suffered no pain at all, while in another lady, 77 years of age, the disease was ushered in by mental and physical torpor, a feeling of general coldness and increasing pain throughout the body. Her headache, backache and aching of the lower extremities finally grew so intense that she sought her bed. At no time, however, did she complain of a defined pain in her chest, although a few days subsequently she spoke of it hurting her to cough. Yet in still a third old lady of 78 years, seen about that same time and in whom pneumonia was much more typical in both signs and symptoms, there was considerable pain in the affected side.

Like the other symptoms, cough is subject to considerble diversity in both frequency and severity. It may be so slight and infrequent as to hardly attract attention. Indeed a troublesome cough of the initial bronchitis may become almost suppressed upon the occurrence of the pneumonia.

On the other hand it may be both frequent and severe, or it may be violent but infrequent, being quite paroxysmal in character. In the first patient I have mentioned, the cough was sufficiently troublesome to require occasional doses of codein, while in the second it was also quite frequent. In a fourth old lady of 87 years, who succumbed, the cough was almost incessant for several nights, and did much to wear out her strength.

These four cases also illustrate the differences in regard to the sputum. In the last this was abundant, mucoserous, so tenacious and stringy that the patient often had to take it from her mouth with her fingers. In the third case expectoration, while not copious, was yet rusty; while in the other two, sputum was scanty and somewhat frothy, with sticky pellets. I recall an old man who died in my care years ago, who never had any expectoration. Regarding the sputum it is well to remember that it may be entirely wanting in the pneumonia of the aged, and even when present is most often not rusty.

Dyspnea is another symptom which may be said to be notable chiefly for its absence, or if present at all is insignificant. It was not noticed in any of the four old ladies I have selected as typifying the features of senile pneumonia. The respirations were accelerated, ranging from 28 to 32 and were shallow. In only one case, that with rusty sputum, did they appear hurried to casual inspection.

In respect, therefore, to the trifling respiratory embarrassment manifested in the course of senile pneumonia, these four patients illustrated well the general rule.

I believe it is a fact that persons of feeble vitality exhibit but slight febrile reaction to those affections

[1] Jour. A. M. A., June 22, 1889.

characterized by fever. In my experience, old people with pneumonia rarely show much elevation of body temperature, except perhaps at the outset. And yet, Grissolle says that of all acute affections attacking the old, pneumonia produces the highest temperature. Some fever is always present, probably; but it frequently is so slight and the surface of the body, particularly those parts exposed to the air, feels so cool to the hand that unless the physician make thermometric observations, he is likely to be deceived into thinking the patient has no fever. In my old lady with the most nearly classic symptoms of pneumonia the temperature averaged between 101 and 102 F., while in the others it ranged not far from 100F. In No. 2 it fluctuated considerably and often quite abruptly, mounting a few times to 102 F., or more, and then falling to its previously low mark. The practitioner, therefore, should not be lured by such low temperatures into the belief that a pneumonia has not yet set in. It will be the exception when his aged pneumonic patient manifests a febrile range of 103 F.

The heart of the old, even when adequate to all demands of health, quickly shows weakness under conditions of disease or accident. It is not strange, therefore, if when pneumonia, which often overpowers the heart of the young and robust, attacks the aged, the pulse should denote cardiac feebleness. Of course, this will differ in degree in individual cases, being determined no doubt by the intensity of the toxemia as much as, or perhaps even more than, by the condition of the heart muscle. In my experience it is not so likely to be the acceleration of the pulse that will arrest attention, as it is its irregularity in force, perchance intermittence, and its want of strength. Its rate may vary considerably in different cases and even in the same case from time to time, but it will always show more or less weakness. In all cases, even if cardiac asthenia is not striking, it is well to remember that the senile heart is apt to give out suddenly and unexpectedly.

General prostration is also a noticeable feature of this disease in the old. It is very common for the patient to complain of feeling tired and weak, even when still capable of putting forth considerable exertion. The old lady of 87 whom I saw in consultation in a distant Michigan town, insisted on getting out of bed to use the night stool, although she spoke repeatedly of her weakness and fatigue. The prostration, so pronounced a feature of this class of cases, is undoubtedly an expression of the toxic action of the specific infection on the nervous system.

Cerebral disturbances, such as low, muttering delirium, may be observed, but in the cases seen by me this past winter the mind remained unaffected.

Anorexia was present in all, but in the old, desire for food, usually slight at all times, is readily lost altogether. In two there was more or less gastric uneasiness and in the patient of 87 vomiting was very distressing for the first few days. Such disturbance, however, is rather to be expected than otherwise; and the same remark can be made regarding the changes in the urine. They are incident to the pneumonia in part and also in part to the age. It should always be remembered that the senile are particularly prone to renal inadequacy, and therefore it is the kidneys and the heart that should be closely watched in this affection of the aged. Important as this is in pneumonia in all ages, it is especially important in old people.

From the preceding rather cursory description of its symptomatology, it is plain that pneumonia in the aged is often very unlike the same malady in healthy young adults. Indeed it is so atypical in the large majority of instances that one might not inaccurately say that pneumonia in the old displays a type peculiar to itself and quite distinctive. In fact, my experience leads me to agree with the great French clinician, Grissolle, who has said in effect that pneumonia is so prevalent among the aged that, although it is often latent, and distinctive physical signs are wanting, the symptoms alone of chill, fever and prostration, unless due to some other very obvious cause, will warrant a diagnosis of pneumonia.

Although the disease may and generally does terminate by crisis, yet this is likely not to be so striking as in the sthenic type of the affection. If pyrexia has been low, the critical defervescence may be readily overlooked and is quite likely to be if the temperature has been remittent or has not been recorded with frequency and regularity. The profuseness of perspiration and the relief from pain will be commensurate with the previous intensity of the symptoms.

If one depends for diagnosis on the discovery of the usual physical signs of pneumonia, he will often find himself left in the lurch. In but one of my four patients so frequently alluded to was dulness over the greater part of a lobe, with bronchial breathing and fine moist râles, crepitant and subcrepitant, discovered. In the others a small circumscribed patch of solidified lung at one or the other base behind was recognized, on firm pressure and deep percussion, but a sense of increased resistance and impaired resonance rather than by distinct dulness. This was confirmed by the recognition of bronchial respiration and pectoriloquy over the suspected area. Careful comparison of the two sides is always advisable and generally necessary. In one instance crepitant râles were detected; in another no râles, while in the others the extensive bronchitis obscured the breath-sounds and crepitant râles except over a very limited patch where there were also impaired resonance and bronchial breathing. In a word, one may consider himself most fortunate if he derive any definite information or assistance from the examination of the chest. Reliance must be placed often on the history, the symptoms, and, if a little sputum can be obtained, on its tenacity and the presence therein of the specific diplococcus.

The gravity of the prognosis in all cases is sufficiently indicated by the high death-rate. But to prognosticate correctly in individual instances will often require ripe judgment and great experience. Aside from complications and the condition of the heart, the importance of which is too well known to make a detailed statement necessary here, it is the degree of toxemia, shown by delirium, cardiac feebleness and general exhaustion, also the patient's ability to take food, on which a prediction should be based. Profound prostration coming on early and increasing in spite of generous stimulation is of evil import since it is an indication of the effect of the toxins on the nerve-centers. If the patient can not take and assimilate sufficient nourishment the case is hopeless from the start. In a word, the more adynamic the type of the disease, the worse the prospect of recovery. How much reliance can be placed on leucocytosis or on different degrees of the same has not yet been determined. Cases in which this has been very marked have yet proved fatal.

Time forbids my discussion of the treatment *in extenso*. I will only emphasize four points:

1. It is my conviction that aged pneumonic patients bear well and require large doses of strychnin.

2. Stimulants, as alcohol, in small or moderate doses, and ammonia in frequently repeated doses are usually highly beneficial.

3. As little medicine as will meet the indications should be given, for fear of upsetting the stomach and thereby destroying what few chances the patients have at the best.

4. Because of the tendency to renal insufficiency, the nourishment should be largely fluid, and nothing is so suitable as milk and properly prepared beef juice.

[The series of papers on Pneumonia will be completed next week, when discussion will follow.]

PNEUMONIA.

ITS COMPLICATIONS AND SEQUELAE*

BY R. B. PREBLE, M.D.

CHICAGO.

The frequency with which pneumonia is associated with inflammatory processes in certain other organs, notably the meninges and the endocardium, has been known to physicians almost since the beginning of medicine, and while some suggested that there must be some relation closer than merely accidental between them, this could not be proven until the discovery of the active casual agent by Fraenkel, Weichselbaum, Talamon, Sternberg and others. This discovery has not, however, solved all the problems, and there are to-day many complications for which we are forced to adopt explanations which, as Jurgensen says, explained x by y. The proposed division of the complications into three groups—mechanical, infectious and toxic—is not to be understood as final or exclusive, for certain complications placed by me in one group would be placed equally well by another in another group. For example, I have placed the cardiac dilatation in the mechanical group, believing that the obstruction to the flow of blood through the lungs is the main factor in the causation of the cardiac dilatation and insufficiency, but there can be no doubt that myocardial degeneration due to the action of toxins is also an important element, and indeed is regarded by some as the main element. The renal changes, also, can be matters of dispute, for it is by no means certain whether they are exclusively infectious, or toxic, or, what is more likely, both.

The first complication which I will mention, while not common, causes such a marked change from the physical signs common to pneumonia that it is of more than ordinary interest, i. e., the plugging of the large bronchi by fibrinous exudate. So far as etiology and pathology are concerned, these cases do not differ from an ordinary case, and there is, in my opinion, no justification for the effort of Grancher and Faisan and other French authors to make it a morbid entity. From theoretical grounds it is easy to understand what effect this filling of the bronchi would have upon the physical signs. Palpatation would show the absence of the vocal fremitus; percussion would yield the intense dulness and resistance which comes from solid organs; auscultation sounds. In a word, in place of the signs of penumonia would show an absence of the respiratory and voice we would find those of a pleural effusion. These are indeed the physical signs which these cases of massive pneumonia or splenopneumonia present. There are certain points about them which usually lead to a suspicion of their true nature; the mode of onset with a well-marked chill and rise of temperature is that of a pneumonia rather than of a pleurisy. The dyspnea and cyanosis are more marked than ordinarily seen with pleurisy, There is a more or less abundant sticky expectorate. Closer attention to the physical signs will show differences from those ordinarily found in pleurisy. The pressure symptoms are practically always absent. There is no displacement of the heart or liver. The sternal deviation described by Pietres as a sign of pleurisy with effusion is wanting; Traube's half-moon space, when the process is left-sided. The vocal fremitus, completely absent over the lower portion of the dulness, becomes gradually more manifest as one passes upward, and does not show the sudden increase in intensity so often seen with pleural effusions. These numerous points strongly suggest the presence of a pneumonia rather than a pleurisy, but they do no more than suggest. Exploratory puncture is the only way to remove the doubt. Such cases as these are considerably more common in the male than in the female; 24 to 3 in the 27 cases collected by Queyrat. They are also more common on the left than on the right; 23 left to 4 right. Their course does not differ from that of the ordinary pneumonia, except that the evolution is somewhat slower, running from eight to ten days, and the resolution is usually somewhat delayed; recovery is the rule; 24 in 27 cases. The two following cases well illustrate the points of likeness and difference between this condition and pleurisy, and also the possibility of mistaking this condition for pericarditis and effusion:

CASE 1.—C. H., male, 37 years of age, a laborer, moderate alcoholic, had pneumonia when very young. Three days ago he had a chill, followed by pain in the right chest, labored breathing, fever and loss of appetite. He coughs slightly, but raises nothing.

Examination shows a strong well-nourished man, markedly cyanotic with icterus. He lies on the right side; is suffering from marked dyspnea; has occasional spasmodic cough, without expectoration. His chest is well developed; the right side is fuller than the left and shows less excursion. Percussion on right side shows area of hyper-resonance above the third rib anteriorly; below this intense dulness and resistance; the same posteriorly. Percussion of the left lung unchanged; vocal fremitus lost over the right side, retained over the left. Auscultation shows entire absence of breath and voice-sounds on the right side. The heart is normal in size, position and sounds; the abdomen negative; liver and spleen not palpable; nervous system negative. The urine is high-colored, sp. gr. 1030, and contains no albumin, but shows many granular casts. Pulse is 106; temperature 101.2; respirations 56. The pulse ranged from 156 to 152; the temperature from 101.2 to 105; the respirations from 40 to 64, for forty-eight hours, until death.

We have here the common history for the onset of pneumonia, but had the physical signs of a large pleural effusion, minus the usual pressure effects upon the heart and liver. The only physical signs which could be interpreted as due to pressure were the fullness of the right side of the chest, and the hyper-resonance anteriorly and above. The dyspnea and cyanosis were extraordinary, even for an effusion reaching the third rib. Exploratory puncture yielded no fluid.

Diagnosis, massive pneumonia.

Autopsy, by Dr. Hektoen, revealed the right pleural cavity obliterated by old adhesions; the right lung solid, weighing 2100 grams, with grayish granular surface; many fibrous casts in the bronchi. The left pleural cavity and lung were normal, also the heart and pericardium. The kidneys weighed 375 grams and were smooth; capsule not adherent; grayish red color; cut surface vascular, with distinct cortical markings. Examination otherwise was negative.

The autopsy thus confirms the clinical diagnosis. The plugging of the bronchi sufficiently explains the marked variation from the usual physical signs of pneumonia.

CASE 2.—A male, Italian, about 22 years of age; present illness began suddenly with a chill followed by fever, cough and pains in the chest.

Examination shows an area of absolute dulness, leaving the liver dulness and passing obliquely upward and crossing the

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

sternum at the third rib, then passing in a slightly curved line downward and outward an inch and a half to the left of the easily visible apex-beat in the fifth intercostal space, and well within the nipple line. This dulness was very intense and the resistance great. No breath or voice-sounds were heard over this area. Heart-sounds were regular but feeble; no friction.

The diagnosis of pericarditis with effusion was made, while at the same time it was noted that the dulness crossed the sternum at a very low level for pericardial effusion, reaching the right nipple line and passing an inch and a half beyond the apex.

The patient died three hours after entrance, and the autopsy showed an intact pericardium. The dulness was due to two pneumonic areas, one right and one left, bordering on the heart. The afferent bronchi to these foci were plugged. A correct diagnosis might perhaps have been made had the patient been longer under observation, but with the conditions such as they were, it is evident that the massive pneumonia may simulate a pericarditis as well as a pleurisy.

The cardiac complications belonging in this group are common, and, in vew of Jurgensen's statement that the immediate cause of the majority of deaths in pneumonia is cardiac insufficiency, must be regarded as important. The explanation of the frequency of the cardiac dilatation is plain. The presence of the infiltration of the lungs greatly increases the work of the heart, and at the same time, by decreasing the supply of oxygen, impairs the nutrition of the heart muscle. It increases the demand and lessens the supply. This is, I believe, the modus operandi in most cases, but were it the only modus the cardiac insufficiency should be directly proportional to the extent of the pneumonic process, providing the heart was primarily intact. Exceptionally, however, there is a manifest disproportion between the intensity of the cardiac symptoms and the extent of the pneumonia. In these cases it is necessary to assume that some third influence is at work, and doubtless this is the intoxication of the organism as a whole, and the heart muscle in particular, with the specific toxins of the pneumococcus. In the days previous to the development of bacteriology the cardiac insufficiency was referred to the action of the fever upon the heart muscle, although it was known then even that there was no direct relation between the degree of the temperature and the danger of the heart failure. They noted, as we do today, the often marked disproportion between the general and local symptoms.

The symptoms pointing to threatening cardiac failure are in general such as occur under like circumstances, irrespective of the cause. The pulse-rate is of some significance. In 100 cases I found the average maximum pulse-rate to be 134; the average for 30 fatal cases was 144; the average for 70 non-fatal cases was 131, but 8 of these passed the average for the fatal cases. Griesinger states that more than one-third of the cases where the pulse-rate reaches 120 die. Of 73 cases in which the pulse passed this point, 30, that is 41 per cent., died. The highest pulse-rate reached by a case which recovered was 160, with a pneumonia on the left upper lobe. Such figures as these have only a very general value, for the individual characteristics of the patient influence the pulse-rate to a marked-degree. A pulse of 160 means much less in a nervous individual than in one who is a phlegmatic; much less in a small individual than in a large.

Irregularity of the pulse previous to the crisis should always cause anxiety, suggesting as it does an antecedent or developing myocarditis, or other cardiac complications. Certain forms of allorhythmia, as the pulsus paradoxus, are of no significance when accompanying upper-lobe pneumonia. Here, too, we sometimes find asymmetry of the radial pulses. Bradycardia even to 40 after the crisis is not uncommon, and should excite no especial anxiety.

Examination of the heart often shows changes which, according to their degree and character, are to be regarded as symptoms or complications. A moderate increase in the cardiac dulness to the right can scarcely be regarded as a complication unless accompanied by other symptoms pointing toward cardiac insufficiency. We must mention that Aufrecht draws attention to the fact that in left-sided pneumonias the heart may be displaced to the right, thus simulating a dilatation of the heart.

Certain auscultatory changes are so common that their absence should arouse more attention than their presence. Accentuation of the second pulmonary tone is frequent and is the expression of the increased blood-pressure in the pulmonary system. The degree of the accentuation is dependent upon so many factors, especially upon the conditions of conductivity, that no inference can be drawn from the intensity of the tone alone. If, however, during the course of the pneumonia the accentuation of the second tone decreases markedly without any improvement in the condition of the lung, it must be regarded as a sign of threatening failure of the right heart.

Systolic murmurs frequently appear over the heart, and their interpretation requires considerable care, and often an absolute differentiation between organic and accidental murmurs can be made only after the lapse of days or weeks. The difficulty lies in the fact that the same patient will present an increase of the heart dulness to the right, an accentuation of the second pulmonary tone, and a systolic murmur, i. e., all the cardinal symptoms of the mitral insufficiency appear in the course of the disease, frequently accompanied by endocarditis. We must remember that this combination of findings means less in the pneumonias than in the other febrile diseases.

Fraentzel has drawn attention to the appearance of the gallop rhythm over the heart, and here as elsewhere it is a sign of impending heart failure. Fraentzel has noted it in 25 cases of pneumonia, 4 times in conjunction with other disturbing symptoms just before the crisis; 7 times during the day after the crisis with general collapse. In other cases it was either the first or an early symptom of cardiac weakness at the height of the disease. Among the last mentioned cases only one lived for two days after the gallop rhythm was first heard.

ICTERUS.

The frequency with which icterus complicates pneumonia varies greatly according to the statements of the various authors. This variation is due in part to the difference in the epidemics recorded, and in part to the attention paid to the jaundice. In many cases the jaundice is so slight and evidently of so little significance that it is not noted. There can also be no doubt of the fact that jaundice occurs more frequently in some epidemics than in others. In the table given by Jurgensen the figures vary over an astonishing range; 0.6 per cent. for Vienna; 0.9 per cent. for Stockholm, and 28.3 per cent. for Basel. In one list of cases from Basel the icterus was found in 5.5 per cent. of the cases, and in a later list, in which especial attention was paid to the icterus, the above figure of 28.3 per cent. was found. Aufrecht found 15 cases of icterus in 1501 cases of pneumonia, that is, 1 per cent. From personal experience I would say that 28 per cent. is much more nearly cor-

rect than 1 per cent., if one includes all patients who show conjunctival icterus.

The pathogenesis of the complicating icterus has been, and still is, a matter of dispute, and probably there are several ways in which the icterus develops. Some of the proposed theories can be quite readily excluded. Venous stasis, with resultant compression of the fine bile capillaries, has been suggested, but this is liable to the objection that jaundice results in this way only when the venous stasis is very marked, and it should be accompanied by the other results of the same cause. The jaundice seen in pneumonia usually occurs without any signs of venous stasis elsewhere, and the autopsies on icteric pneumonics do not show venous stasis.

Retention of bile consequent upon lessened movement of the diaphragm is another suggestion, but were this so, jaundice should occur in other conditions of lessened respiratory movement, such as pleurisy, with equal frequency. Jaundice ought also to be more common in pneumonias of the right lower lobe, while it is not proportionately so. Pétrow studied 67 cases of right-sided pneumonia with attention to this point, and found only 6 were icteric, and in all of these there was some lesion of the bile-duct.

Formation of the bile pigments from the red blood-corpuscles broken down during the absorption of the exudate is another suggestion, but may be excluded by the fact that the icterus occurs usually before the absorption of the exudate.

Banti, basing his opinion upon 15 cases, studied in an epidemic of pneumonia in Florence, believes that the diplococcus of pneumonia has a peculiar hematolytic power, and that the icterus is the result of this hematolytic power, and that the icterus is the result of this hematolysis. More than one-half of these cases died, and at the autopsies the bile-ducts were patent, the bile thick, and the feces deeply stained. Cultures from these cases produced hemoglobinuria in animals, while cultures from cases without icterus did not.

Lastly, the icterus has been referred to a catarrh of the bile-ducts or duodenum, or both, and this doubtless is the cause of many cases. Pétrow, in 1897, reports the result of autopsies in 13 cases of pneumonia with jaundice, and in all cases found a lesion of the biliary duct—in 8 cases duodenitis, in 2 cases accompanied by hyperthropic cirrhosis, in 5 cases an angiocolitis. Gilbert and Grenet report three autopsies with inflammation of the gall-ducts, in each case due to the infection of the ducts with the bacillus coli communis.

From this review it would seem that the icterus complicating pneumonia may be due to an obstructing inflammation of the bile-ducts, or it may be the so-called hematogenous or toxic jaundice, remembering always that the experiments of Naunyn and Minkowsky have shown that this form of jaundice is only apparently hematogenous, and that all are really hepatogenous. It seems probable that these cases also are really cases of obstructive jaundice, but here the obstruction is in an infinite number of small ducts instead of one or a few large ones. We can not agree with Pétrow, who considers the jaundice as an accidental complication, the frequency with which it occurs being sufficient to exclude this. The experiments of Banti and the well-known clinical fact that jaundice is more common in some epidemics than in others suggests differences in the virulence of the infective agent.

The effect of jaundice upon the clinical source of the pneumonia is dependent in part upon the intensity and in part on the immediate cause of the jaundice. In cases of duodenitis and localized angiocolitis we need consider only the intensity, but where there is reason to believe that the jaundice is due to the character of the infection the intensity is of less importance. The effect upon the mortality is variously estimated by various authors. Traube regarded it as a very dangerous complication. Moseler puts the mortality at 73 per cent., Fismer at 20 per cent., and Banti lost more than one-half of 15 cases. Others, as Huss and Lebert, say that the jaundice has no injurious influence upon the course of the pneumonia. The effect on the mortality is determined by the intensity and the cause.

Jaundice affects the course of the pneumonia by the influence which it exerts upon the nervous system, the heart, the gastro-intestinal tract and the kidneys. It affects especially the sensorium, causing a stupor which appears very early; lessens the sensibility and excites delirium. Traube notes that these patients are very often entirely insensible to the pain caused by the accompanying pleurisy. The effect on the heart may be still more serious. French authors have drawn attention to the fact that jaundice, irrespective of its cause, may excite considerable dilatation of the right ventricle, and I have personally been able to repeatedly confirm this observation. It is at once manifest how dangerous a jaundice may be when added to a disease which, like pneumonia, usually causes some dilatation of the right heart.

The gastro-intestinal symptoms are nausea, vomiting, diarrhea, and meteorism. Any or even all of these may, however, be absent. Meteorism is said by Traube to be of unfavorable prognostic significance. The color of the stools is important as throwing some light upon the site of the obstruction to the onflow of bile. They are clay-colored when the obstruction is at the duodenum, but may be quite dark, as in Banti's cases, when the obstruction is at the smaller ducts. The kidneys may be affected in such a way that albuminuria or even nephritis results. Another interesting manifestation of the jaundice sometimes seen is green-colored sputum.

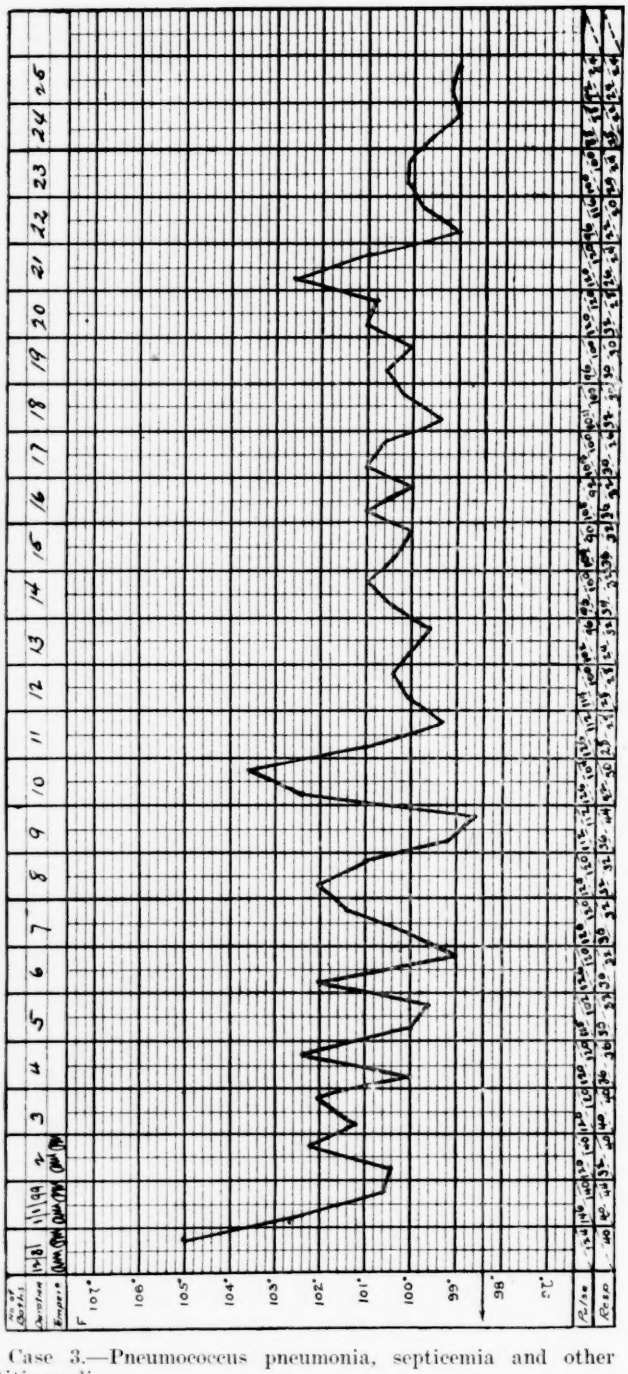
In the second, or infectious, group are placed those complications due to the presence of the pneumococcus in organs other than the lungs. The infective agent reaches these organs in a variety of ways; by the blood or lymph vessels, or by extension along ducts or by direct extension. Certain organs, as the joints and remote soft parts, are infected only by means of the blood-current. The pleura and pericardium may be infected in this way, or more often by direct extension. The meninges may be infected through the blood, by extension from the middle-ear or nasal air-spaces, or, according to Weichselbaum, by extension through the cervical lymph-channels from the mediastinum. The middle ear is oftenest affected by extension along the Eustachian tube; the parotid gland by extension along Steno's duct. The method of extension is important, for when the extension is along the blood-channels there is usually, but by no means always, multiple secondary localization of the bacteria, while the extension by lymph-channels or ducts is a local process.

The pneumococcus has been repeatedly demonstrated in the circulating blood in cases of pneumonia without affecting the clinical symptoms of the primary disease. They are doubtless present in many cases without their presence being suspected, and inasmuch as the number of record cases is still small, no very definite statements can be made. Sello examined 48 cases by venous puncture, during life, with negative results in 36, of whom 9 died; 12 positive results, with 10 deaths. Of the two patients who recovered, one had a pneumococcus

empyema, and one a pyemia. These cases, with others reported, show what one would expect, that the presence of the pneumococcus in the blood makes the prognosis unfavorable and complications due to secondary localization of the pneumococcus common.

After entering the blood the pneumococcus may cause either a general infection in the shape of a septicemia or pyemia, or may localize itself in one focus, causing a meningitis, a monarthritis, a panophthalmitis, and so forth. The clinical picture resulting from such infection is too manifold to permit of general description, but the following clinical cases will serve as illustrations:

CASE 3.—Mrs. N. S., a widow, aged 25 years, entered Dec. 31, 1898. She had had the measles and whooping-cough as a child; pneumonia one and two years ago, and had been feeling poorly for a week, with "a cold in the head" and loose cough. Two days before entering she had a chill lasting fifteen or twenty minutes, followed by fever. Immediately after the chill sharp pain was felt in the right side, in the axillary region, aggravated by coughing or deep breathing; a hard, painful cough, later expectoration of white tenacious material.



Case 3.—Pneumococcus pneumonia, septicemia and other otitis media.

Examination showed her to be poorly nourished; slender and small; mind clear; skin moist; eyes showing some exophthalmus; pupils reacting to light and accommodation; lips dry; cyanosis and icterus. Her chest was small and narrow, respirations rapid and jerky. There was friction fremitus in the right axilla; dulness over the right lower lobe posteriorly, and over the same area crepitant râles, friction and tubular breathing. Over the left lower lobe posteriorly there were fine mucous râles. The heart was negative; pulse rapid, full and of medium tension. The liver extended two finger lengths below the costal arch and was tender. The spleen was not palpable; urine 1020, acid, clear yellow, containing no albumin nor formed elements. Temperature, pulse and respiration were as in chart.

Diagnosis, pneumonia of the right lower lobe.

January 9, a spot of consolidation was noted in the left lower lobe, and in the left upper lobe, with a temperature of 98.7; pulse 112, and respirations, 44. Pneumococci appeared in the sputum.

January 13, an area of consolidation appeared in the right upper lobe.

January 17, cultures from the blood obtained by venous puncture showed pneumococci.

January 18, there was purulent discharge from the left ear; pneumococci in the pus. From then on gradual recovery, leaving the hospital one month after entrance.

We have here what at first seemed to be an ordinary pneumococcus pneumonia. Its course was prolonged by later transient localization in other lobes than the one primarily involved. Without there being any special reason to suspect the presence of the pneumococci in the blood, they were found easily and in large numbers, being present also in blood smears. Whether or not the complicating otitis media was due to localization from the blood or extension through the throat could not be determined, but was probably the latter.

CASE 4.—Grace K., single, entered Dec. 4, 1898. Had scarlet fever as a child; had cholera ten years ago, lasting for some months. Since then she has had trouble with her heart. She had been fairly well, until five weeks previous to entrance, when illness began with a dull pain in the fingers, thighs, and muscles generally, but not involving the joints. For a few nights after the onset she had night sweats, and when these stopped the cough began and continued with yellow mucopurulent expectorate. Has had dyspnea on lying down and on exertion; no swelling of the feet; appetite fair, but had distress after eating.

Examination showed a small, poorly-nourished woman, about 25 years of age. She had slight cyanosis on lying down; no edema. Examination of the lungs showed only generally diffused moist râles. Apex-beat of the heart was external to the nipple line in the fifth interspace, first tone at apex easily palpable; presystolic thrill over the apex; second pulmonary tone palpable. There was absolute cardiac dulness to the third rib above, to and a little beyond the right border of the sternum to the apex-beat, with systolic and presystolic murmurs at apex. The first tone at the apex and the second pulmonary tone were accentuated; aortic tones pure. The liver was slightly enlarged; spleen not palpable. Urine, 1030; contained no albumin nor casts. Temperature was 101; pulse 96; respirations 32. Course of the temperature and so forth is shown in chart.

Diagnosis, acute exacerbation of an old mitral endocarditis.

December 7, diffuse moist and crepitant râles over both lungs; no bronchial breathing; cough, but no expectorate.

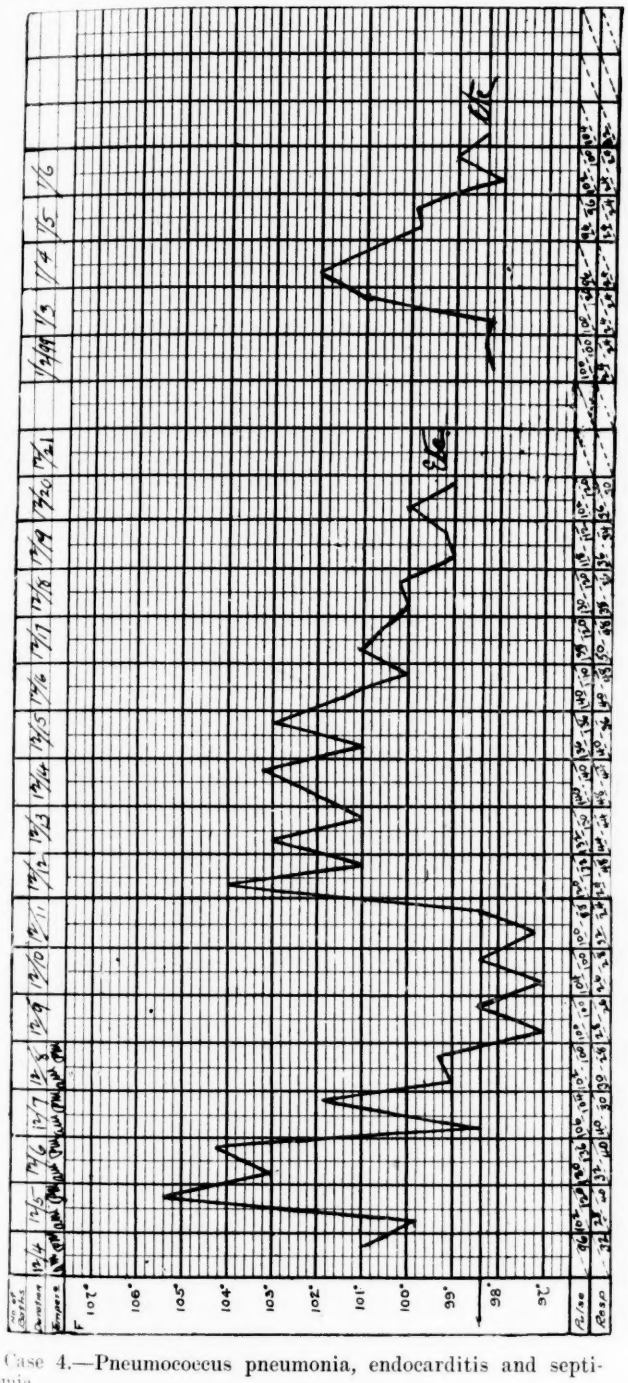
December 12, after a normal temperature for three days, the temperature rose suddenly to 104; the pulse 120; respirations 24. Crepitant râles appeared over the right middle and lower lobe without dulness or bronchial breathing. There was bloody sputum containing pneumococci.

December 15, dulness of the right middle and part of the left lower lobe was noted, with bronchial breathing and crepitant râles; cardiac dulness increased beyond the size at entrance, with pericardial friction. Blood shows 24,541 leucocytes. Smears and cultures show pneumococci.

December 17, blood smears show pneumococci. The condition gradually improved, the temperature fell by lysis, but the pulse and respiration kept up. The lungs gradually cleared, heart condition did not change. Pneumococci found at intervals until December 31, when the blood examination

showed 2,464,000 reds, 9023 whites; hemoglobin, 50 per cent.; no bacteria.

January 2, 1899, the patient has been up and about for three days and feels well, but this morning spit up a small amount of bright red blood. Was sent to bed and examination showed a perfectly developed consolidation of the lower left lobe. Temperature 99. The two following days she had a temperature ranging from 101 to 102, with pulse ranging from 96 to 120, and respirations of 24. The next day the temperature fell, but the signs of consolidation continued for several days, and gradually disappeared. During this time the patient was entirely free from subjective symptoms, and objected strongly to being confined to bed. The blood at this time was free from pneumococci. The patient gradually regained her health, and left the hospital seven weeks after entrance. The diagnosis ran an acute exacerbation of the chronic endocarditis, causing mitral stenosis and insufficiency, lobar pneumonia, pericarditis and pneumococcus septicemia.



Case 4.—Pneumococcus pneumonia, endocarditis and septicemia.

The thing that seems to be the most remarkable about this case is the almost complete absence of constitutional symptoms from the left lower lobe pneumonia, which was the final chapter in the history. Are we warranted in supposing that during the time in which the pneumococci were constantly present in the circulating blood, she acquired such a constitutional immunity to the pneumotoxins, that when later she developed a lobar pneumonia the process remained strictly local, and the toxins absorbed from this area were unable to excite the constitutional symptoms which they normally excite?

The frequency with which meningitis complicates pneumonia is variously stated by various authors, and nothing more than approximate figures can be given. Doubtless many cases are incorrectly called meningitis in the clinic, and many cases are overlooked in the autopsy room.

Sello	5 cases in	750, 0.6	per cent.
Aufrecht	10 " "	1500, 0.6	per cent.
Vienna	8 " "	5738, 0.1	per cent.
Stockholm	2 " "	2616, 0.1	per cent.
Basel	3 " "	250, 1.3	per cent.
Nauwerk	14 " "	1172, 1.2	per cent.
Huss	2 " "	2616, 0.08	per cent.
v. Biach	15 " "	11422, 0.13	per cent

Firket combined statistics from various sources, and found 64 cases in 16,333, i. e., 1 to 200 or 250. Records of autopsies are given as follows:

	Cases.	Times.	Per cent.
Zurich (1860-1879)	213	14	6.57
Turin and Milan	941	38	4.2
Montreal	193	8	7.76
Munich (11years)	97	6	6.18
Liege (2 years)	42	3	7.14

Figures range from 40.9 per cent. by Immerman and Heller to 1.39 per cent. by Jurgensen.

The frequency of this complication varies somewhat in different epidemics. The localization of the pneumonia seems to have no bearing upon the frequency, and meningitis is no more common in double than in single pneumonias. It is proportionately more common in males than in females, and the age from 40 to 50 years yields more than its due proportion of cases. The day of the pneumonia upon which the meningitis appears varies, but according to Netter three-fourths of the cases show their first symptoms during the active stage of the pneumonia, for in 89 of 120 autopsies, the lungs were in a stage of red or gray hepatization, or were undergoing resolution. The meningitis may, however, precede the pneumonia, or not occur until after resolution.

The clinical picture varies greatly; more than one-half have a latent course, the symptoms being obscured by those of the pneumonia. If symptoms manifest themselves, they are dependent largely upon the localization of the exudate, and this may be over the convexity, base or cord, or any two or all. The symptoms do not differ from those of meningitis of other forms, and do not require any detailed description. The cases usually last but a few days after the appearance of symptoms. In 65 cases 54 died within four days after onset. A few last a week to two weeks and recovery rarely occurs.

CASE 5.—Carrie R., aged 43 years, a seamstress, entered Dec. 1, 1898. No history as to family, previous illness or habits could be obtained, history of the present illness coming from a friend. The illness began three days before admission, with a very severe frontal headache, and vomiting lasting for thirty-six hours. She had several chills during the first night, and was very delirious, so that restraint was necessary. She was taken to the Detention Hospital, and from there after a few hours to the County Hospital.

Examination showed a well-nourished woman, lying passively in bed, unable to give any account of herself. Elbow, wrist, knee and ankle joints were red, swollen, painful and tender; skin negative. Heart, lungs and abdominal organs were also negative. Urine, acid, clear, 1028, contained a trace of albumin, with fine and coarse granular casts. Nervous system: Pupils were unequal, the right being larger than the

left; reacted to light. There was rigidity of the neck; no paralysis; no Kernig sign. Pulse was 96; axillary temperature 99; respirations 28. Lumbar puncture showed diplococci answering the description of the pneumococcus; extracellular.

December 2, pulse was 120; axillary temperature 100.3; respirations 48. There was coma; slight icterus; no eruption; retraction of the head and rigidity of the neck; joints as before; no paralyses. Bilateral choked disc was more marked in the left.

December 3, pulse was 120; temperature 100.3 per rectum; respirations 60. Resonance over both lower lobes was impaired; more marked in left than right; breath-sounds loud and accompanied by a few crepitant râles. The heart was not enlarged; both basal tones were pure and accentuated; pericardial friction. There was slight external strabismus; right-sided ptosis; head turned to the right; beginning herpes labialis on the right side. Left wrist was punctured, yielding a few drops of thick whitish mucopus, showing pneumococci. Blood smears show the same organism. Lumbar puncture was repeated, but no fluid obtained.

Diagnosis: Diffuse infection by the pneumococci, causing meningitis, pericarditis, and multiple arthritis.

Autopsy, by Dr. Hektoen, showed a small amount of purulent fluid in the pericardium; lungs showed hypostasis below and an old healed tuberculosis in the right apex. The kidneys showed an acute degeneration; brain and cord, diffuse purulent meningitis, and multiple arthritis. Bacteriologic examination showed pneumococci in the blood, pericardium, meninges and joints.

CASE 6.—J. M., male, a patient of Dr. Billings, entered March 2, 1899. He was comatose and unable to give any account of himself.

Examination showed right eye closed; left held open; heart negative. Lungs showed dulness, with high-pitched breathing over the left lower lobe with friction. Abdomen: Liver was palpable; spleen, not. Pulse 80; temperature 102 in the axilla; respirations 32. All rose gradually till death on the sixth day.

Lumbar puncture yielded a diplococcus which by stain, culture and inoculation proved to be the diplococcus of pneumonia. Anatomical diagnosis at autopsy: Purulent cerebrospinal meningitis, acute endocarditis, pulmonary edema, cloudy swelling of the kidneys.

(To be continued.)

[This series of papers on Pneumonia will be completed next week when discussion will follow.]

ASEPSIS OF HANDS OF THE SURGEON AND SKIN OF THE PATIENT.*

BY CARL BECK, M.D.

NEW YORK CITY.

1. Ideal asepsis has become an established fact as far as all objects are concerned which stand boiling well.

2. The atmosphere has no pernicious effects on wounds, as pathogenic bacteria fortunately have a tendency to settle, so they can only come into contact with a wound when the dust in the room is immoderately stirred up. To avoid this possibility, the air in the operating-room is saturated with moisture, at least during two hours before the operation. This can be done simply by originating steam in a kettle.

3. Asepsis of the hands of the surgeon as well as of the skin of the patient is still imperfect, total destruction of the bacteria of the skin being practically impossible.

4. Asepsis must be attained principally by physical, especially mechanical, methods. Chemical processes should play but a very subordinate part.

5. The means with which asepsis should be attained must be aseptic. This refers particularly to the water used for washing, and the soap, which must have been prepared by the boiling process. If brushes are used special care has to be taken. They can only with difficulty be rendered aseptic, thorough cleaning impairing their usefulness.

6. The surface of the human body is impregnated with many different bacterial species. Some of them adhere to the skin surface, others are imbedded in the dried cells of the epidermis. They do not need destruction, but removal. This can be done by simple mechanical means, viz., scrubbing with soap and hot water. Two kinds of soap are used for this purpose. First with linen compresses, dipped into fluid soap, which is mixed with soft sand (Stuttgart sand), the skin is energetically scrubbed for two minutes, a stream of very warm water always flowing over the surface. Then aseptic green soap is used in the same manner, for the same length of time. Particular attention is given to the folds and creases of the skin and to the subungual space. The latter requires the use of a nail-cleaner and energetic wiping with the sand-soap. Now the skin is dried with an aseptic towel and rubbed with a gauze compress, saturated with 50 per cent. alcohol for about one minute. The alcohol is used for the purpose of dissolving the fat of the skin, which shelters the bacteria; and by dissolving the shelter, the bacteria are removed at the same time. Whether washing with bichlorid of mercury is needed after these procedures is open to discussion; it will certainly not do any harm.

There is no doubt that the surface of the skin can thus be rendered absolutely aseptic by this method, as well as by a few other similar ones. But there remain still a number of bacteria imbedded in the glands of the skin— the secretions of which offer a favorable soil for their development—which cannot be removed. But they will do as little harm as the dust in the room, if cared for properly, viz.: In the incising of the skin a number of glands are naturally dissected, and the bacteria contained by them are freely exposed. The dissecting-knife also comes in intimate contact with them and must therefore be considered infected. This undeniable fact explains thoroughly the so-called suppuration of the stitch-canals, as well as the bad reputation of the catgut, and many cases of infection under the supervision of the "extremely careful aseptic surgeon." It also explains suppuration after most laboratory tests, carried out under "the most minute aseptic precautions."

How do we get around this salient point?

The knife used for the skin-incision must not be used for further incisions.

The wound-margins of the skin are covered with sterile napkins, with are fastened to the wound surface with small miniature forceps, so that the skin-wound is not touched at all during the subsequent manipulations.

Surgeon and assistants wear sterilized linen gloves. The surgeon changes gloves after the skin-incision is completed.

For uniting the wound-margins of the skin the subcutaneous method should be preferred. The superficial surface of the skin of the patient had been rendered aseptic beforehand by having been given a warm bath twenty-four hours before the operation, a rigid scrubbing with soap and shaving having taken place at the same time. A poultice of green soap had been applied to the skin-surface for twenty-four hours in order to secure thorough permeation of the epidermis, which is macerated to some extent by this procedure. The surface being aseptic, and the skin-glands, which contain bacteria, being *hors de combat,* it becomes evident that the only possible source of infection remaining then,

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus Ohio, June 6-9, 1899.

would be the surgeon's hands. As explained before, the bacteria on the skin-surface can be removed, consequently also those of the surgeon's hands. But the bacteria in the skin-glands can not. But as the surgeon's skin is not incised, the bacteria sheltered by his glands are not exposed, provided there are no forcible efforts made to dislodge them. These facts teach us:

The advisability of wearing aseptic gloves.

In case gloves interfere with the technic of a delicate operation, the hands should come in contact with the wounded area as little as possible, most manipulations should be done by instruments, for instance a needle-holder should be used while sewing, instead of taking the needle into the hand—thumb forceps should be used for holding tissues instead of holding them with the fingers.

The advisability of operating as quickly as possible.

The necessity of avoiding forcible manipulations, especially blunt operating, which is so much favored by some surgeons under the pretense of blood saving.

7. The head should be covered with a cap, as, in bending over the field of operation, it often happens that the heads of the surgeon and his assistant come in contact.

8. Long beards are unsurgical.

9. The air expired by the healthy contains no bacteria deleterious to wounds. If the surgeon should suffer from rhinitis, tonsillitis, etc., he should best omit operating, or at least use proper local precautions.

11. Bacteriologic tests of aseptic methods, gained on artificial soil, cannot be transferred upon biologic processes, the living cell reacting against bacteria differently from gelatin, agar or serum.

POSTPUERPERAL SEPSIS.

INDICATIONS FOR AND OPERATIVE TREATMENT THEREOF.*

BY JOHN B. DEAVER, M.D.

PHILADELPHIA.

The comparative frequency with which postpuerperal sepsis occurs even at the present time, with our knowledge of asepsis in surgery and obstetrics, calls for some discussion as to the best method to combat this serious and dangerous affection. In order to arrive at the best means of disposing of the sepsis and the prevention of an extension of the infection, we must consider the source and cause of the infection. The report of the following case demonstrates how the destructive changes consequent on puerperal sepsis will at times become circumscribed, and give the surgeon the opportunity of both saving life and performing an ideal operation.

TUBO-OVARIAN ABSCESS (R) WITH INFECTION OF UTERUS FOLLOWING CHILDBIRTH; UTERUS, RIGHT TUBE, RIGHT OVARY AND LEFT TUBE REMOVED.

A. S., aged 28 years, married, was born in Germany. Her mother died of pneumonia at 70; father, two brothers, three sisters, and husband are living and well; has been married eight years; four children dead, two living and well. The first child was born at term, the second, third, fourth and fifth were miscarriages, all occurring between 6½ and 8½ months. The last child is living and healthy.

Previous History: She had a sprained ankle ten years ago; was never sick until two months after the first child was born—seven years ago—when she had pneumonia and was sick three weeks, and she has never felt well since; she has had more or less constant cutting pain in the abdomen and backache ever since her first child was born.

During her last pregnancy she had an inflammation of the uterus for which she received local treatment, and she says that every time she douched herself large pieces of membrane were expelled. The childbirth was easy and she felt well for two days; then she complained of a dull pain on the right side of the uterus. The pain increased from day to day. This pain was much worse at night, preventing sleep. Appetite was very poor. She got out of bed ten days after the birth of the child, but could not walk straight because her hip pained her. She remained out of bed until two days before admission to the German Hospital, five weeks after confinement.

When admitted she had a fever and rapid pulse and was very weak. The abdomen was tender but especially marked on the left side. Vaginal examination revealed a very painful mass on the right side. The left side was not so tender and no prominent mass could be felt. The uterus was enlarged and boggy and a slight laceration of the cervix was also present. She had vesicle irritation one week before.

Under ether, an incision was made through the right rectus muscle, the peritoneum opened and the intestines packed back with gauze. The right tube and ovary were enlarged and the seat of a tubo-ovarian abscess as large as a lemon, which was ruptured in delivery. The tube and ovary had been destroyed by the inflammatory exudate and were therefore removed. The uterus was enlarged and the seat of multiple foci of suppuration and was also removed. The left tube being diseased was removed, leaving the ovary which was normal. The patient made a good recovery.

The question of puerperal sepsis is, we are forced to admit, a most important and too often a serious condition. The different ways in which the destructive consequences of this unfortunate condition demonstrate themselves are too well known to every active abdominal surgeon. There are three forms of puerperal sepsis from an anatomic standpoint, all of which are infectious and due to abrasion of the mucous membrane lining the cervical canal and uterus. They are endometritial, metritial and the parametritial. The most fatal form is the metritial. It is characterized by multiple foci of infection and abscesses. The endometritial is most amenable to treatment, viz., curettement of retained decidua and thorough disinfection of the uterine canal. The parametritial form is frequently mistaken for so-called pelvic cellulitis, a name which means nothing, for all the so-called cases of pelvic cellulitis are infective processes and lead to abscess formation.

It is a well-known fact that postpuerperal sepsis is of two varieties, that due to putrefactive changes in the retained portions of the decidua, afterbirth, or of blood clots, and that which is the result of the introduction of micro-organisms by means of the denuded endometrium, through the sinuses or as the result of injury to the external genitalia following the use of instruments during labor. The first cause, that produced by putrefaction, has a tendency to localize foci of infection in the immediate neighborhood of the putrefactive changes where nature has protected to a certain extent by a barrier formed by reactive inflammation. In the latter condition sepsis, the result of micro-organisms, a more general septic condition, is apt to be present and is usually produced by dirty instruments in attempted abortion or premature labor.

The attempt on the part of Nature does not always

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

suffice to protect the woman, as absorption of micro-organisms or their ptomains will sometimes show itself as a putrefactive intoxication with the constitutional evidence of sepsis usual to this affection. In other words puerperal sepsis is wound fever, as the Germans call it. Primarily it is infection which takes place in an abraded or torn surface. It differs in degree with the character of the infection. It may start in the favorable medium of decomposing retained membrane, or it may be due to bacteriologic infection in the external genitalia. Therefore at first it is a local or at least is a circumscribed process, and is at this time most amenable to treatment. If allowed to pass this stage in its development, we may meet any or all of the complicated and extremely dangerous conditions of full-fledged puerperal sepsis.

The writer has seen fit to speak of the different forms of puerperal sepsis as he has met and is constantly meeting with it. This condition follows abortion and labor at term. In the majority of cases of sepsis following abortion, early recognition will confine the operative treatment to the vagina and the uterus and necessitate simply, thorough cleansing of both cavities, including the removal of the retained decidua, and proper disinfection and packing with iodoform or some antiseptic gauze. Each year, in both hospital and private practice, I see a number of these cases, which if seen early enough usually recover.

In another class of cases following abortion, not only the uterus but the Fallopian tubes are involved. These, however, are seen at a later stage of the disease, when abdominal section and supravaginal removal of the uterus with the uterine appendages, being able to occasionally save one and sometimes both ovaries, suffice to establish a cure. Another class of cases met with after labor at full term have as their most prominent feature a large purulent collection in one or other side of the pelvis, a condition frequently described as cellulitis and abscess. To this term the writer takes exception, for I am convinced that these cases originate from sepsis carried into the Fallopian tube, and through the Fallopian tube into the pelvis, where the inflammatory exudate breaks down and forms an abscess, which is circumscribed by an adventitious membrane so closely resembling peritoneum that operators pronounce it as such, and record the case as one of abscess of the broad ligament. I have studied these cases very carefully and from an anatomic standpoint I have never been able to make them out other than cases of circumscribed peritonitis, and not suppurating cellulitis. This class of cases frequently occasions a bulging of the recto-uterine cul-de-sac so far as to make it feasible to evacuate it through an incision in the vault of the vagina. That they can be so evacuated does not disprove their true nature.

As I have referred to cleansing the uterus I will say a word about the uterine curette. On general principles this instrument is resorted to too often; on the other hand, there are conditions for the relief of which the use of it is essential. I beg to put myself on record, however, by stating that this instrument should be handled with the greatest care and gentleness. In short, it requires as delicate a manipulative skill to use the curette with safety as it does the lithotrite. In the use of either of these instruments the operator should be so deft that, through the medium of the hand manipulating the instrument, and secondarily through the instrument, he should, as it were, be able to carry on a conversation with the part being operated on, and so be able to tell dangerous places, where it will be necessary to scarcely bring the instrument into contact with the part, while at other points a slight pressure will be necessary. I beg of you, gentlemen, to understand that I am conscious of the importance of this statement, but I feel regarding this as I do about many other operative measures about which much is said, that it is not the operation which is at fault, but the operator.

A woman, aged 26, white, married seven years, had two children, one miscarriage. Menstruation began at the age of 15. She had the usual diseases of childhood; health previous to present trouble had been fairly good; was pregnant about six weeks when present illness began, on the afternoon of March 11, 1899, with sudden sharp abdominal pain referred particularly to the pelvic region, with symptoms of shock, cold clammy skin, pale conjunctivæ, weak pulse and feeble sighing respiration. I saw the patient in the evening of the same day, in consultation with my brother, Dr. H. C. Deaver, whose diagnosis was internal hemorrhage, with which I concurred. The operation the same night revealed a "belly full" of blood with a perforated uterus, the perforation being about one-half an inch in its longest diameter. Supravaginal amputation of the uterus, with removal of left tube and ovary and right tube was performed, the right ovary left *in situ*. The patient was very much depressed after the operation. Immediately following the operation 2000 c.c. of normal saline solution were given in the left basilic vein; 3.30 a. m., same night, 1800 c.c. in right basilic vein. Recovery was complete and from this on uneventful.

Another patient, aged 38, white, was seen by me in consultation with her physician, on the evening of Feb. 28, 1899. She had recently aborted and had been curetted. On the arrival of her physician, examination revealed the presence of a loop of intestine in the vagina; this was replaced and consultation called. When I saw her she had rapid pulse, high temperature, distended and rigid abdomen. Operation was performed the same night. On opening the abdomen there we found diffuse peritonitis with pus, the great omentum greatly infiltrated, blood clots in the recto-uterine cul-de-sac, a knuckle of a small bowl six inches in length, semigangrenous and devoid of mensentery. The uterus was the seat of perforation about the size of a five-cent piece. Supravaginal amputation of the uterus was done, with removal of the tubes. The involved portion of the ileum was resected and end-to-end suture with needle and thread made. The ovaries were not removed. The abdominal cavity was thoroughly irrigated and drained. Death occurred on the evening of the fourth day from peritonitis.

Sepsis following labor at term manifests itself in two ways: 1. By infection of the external genitalia, the result of bruises, tears, etc., and if recognized early and free drainage is established few lives will be lost. The practice of immediately sewing up a torn perineum, which often involves the posterior vaginal wall, if not done with the strictest cleanliness, is responsible for many of these conditions. Better leave a torn peritoneum or vagina alone than to coapt all torn parts ever so nicely, if not done with strict cleanliness, because the rents may furnish avenues of drainage sufficient to carry off the infection, which is not only added to by lack of cleanliness but is increased by the introduction of too many sutures. Not uncommonly too many sutures are used, and tied too tightly, subjecting the tissues to dangerous degrees of tension. 2. By infection of the internal genitalia which manifests itself in the shape of

septic endometritis, septic phlebitis of the uterine sinuses, and of the veins of the broad ligament; septic inflammation of the Fallopian tubes and, through fimbriated extremities, septic peritonitis. Very radical operation in infection of the internal genitalia, barring that of septic endometritis is, in the majorty of instances, attended by disastrous results.

Septic endometritis, in the majority of instances, if seen early is amenable to gentle curetting, douching with a warm solution of bichlorid, 1-4000, and carbolic acid, 1-80, and packing the uterus lightly with 5 per cent. iodoform gauze, moistened with the above solution. The preparation of the field of operation is as essential here as elsewhere. The vulva and pubic region are to be shaven, and the vagina thoroughly cleansed. During the operation the external parts are bathed constantly by the bichlorid and carbolic solution, which is allowed to flow from an irrigator. The operation being completed, an antiseptic pad is adjusted, After each urination the parts are to be washed with bichlorid, etc. I thing it safer to allow the patient to pass her urine than to use the catheter: 1, because I believe it bad practice to suspend the function of the bladder, and 2, the use of the catheter is too often followed by cystitis, a condition I have seen quite as troublesome to correct as the one for which the operation was done. If a catheter is used it should only be a glass or a metal instrument, for these are the only instruments that can be sterilized. It is fitting to say a word here relative to lysol as an antiseptic wash. Personally I regard it of little use compared with bichlorid and carbolic acid. In short, to use lysol I consider sending a boy on a man's errand.

To defer curetting, cleansing, etc., until the patient is constitutionally infected with perhaps a septic peritonitis is virtually locking the stable after the horse is stolen. Early recognition of the danger and the immediate institution of the only proper treatment is the *sine qua non* to a successful issue in the majority of cases. Conservative treatment is the early institution of radical measures which results in saving life, and is not waiting until the "eleventh hour" in hope that Nature, by establishing a leucocytosis or what not, will by chance accomplish a cure.

That postpuerperal sepsis manifests itself in some cases as a phlebitis of the uterine sinuses and of the veins of the broad ligaments, we must agree. In this type of the disease the constitutional symptoms are pronounced; rapid pulse, high temperature, irritable stomach, with, in some cases, a disposition to diarrhea; associated with this condition of the vessels there is endometritis, giving rise to an offensive purulent discharge, often blood-stained. Local examination shows a hot vagina, an enlarged, painful and movable uterus, which offers more or less resistance to touch, suggestive of infiltration, fulness and increased resistance in either vaginal vault indicative of a like condition of the broad ligaments; and the absence of fulness in either the recto-uterine or vesico-uterine pouch. In this condition operation promises nothing; on the contrary it may do much harm by breaking down septic thrombi, often favoring foci of inflammation, to say nothing about the risk of cerebral or ptomainic emboli.

Mrs. C., aged 35, with a history of miscarriage occurring four weeks previously, presented the symptoms of pelvic abscess following premature birth. The uterus was subdivided; a large hard mass could be detected to the left of the uterus extending from the floor of the pelvis to the abdominal wall. Diagnosis: Peritoneal uterine exudate from sepsis with abscess. Incision through the left rectus muscles disclosed a large deposit of lymph which contained a small purulent collection. Drainage was introduced and resolution followed, with recovery.

Mrs. L., aged 32, gave a history of miscarriage. A mass was found, on vaginal examination, to the right and behind the uterus, fluctuating and very tender to touch; uterus subinvolved with a discharge from cervical canal. Diagnosis: Pelvic abscess from infection. The abscess was evacuated through the vagina by means of incision into the mass; curettement of the uterus, drainage of both the abscess cavity and of the uterine canal. Recovery was uninterrupted.

Mrs. A., aged 38, gave a history of infection occurring three weeks after labor. A mass was detected above the pubis and slightly to the left of the median line, as well as by vaginal touch. Diagnosis: Pelvic abscess following infection from uterus. An attempt was made to evacuate the collection through the vagina, by opening the recto-uterine cul-de-sac. The cul-de-sac opened, the mass was found to occupy too high a position to warrant further attempt by way of this avenue. Incision was next made along Poupart's ligament, the peritoneum exposed and pushed out of the way, the mass of lymph felt anterior to the bladder, which was opened and found to contain an abscess. The cavity was irrigated, drainage introduced and the wound allowed to close by granulation. Recovery followed.

The treatment which promises most under these circumstances is supporting: stimulants, large doses of tincture of iron, 30 gtt. every three hours, quinin, grs. x. in twenty-four hours, plenty of milk and concentrated nourishment; locally vaginal and intra-uterine douching with bichlorid and carbolic solution, antiseptic pads, etc., and ice-bags are constantly applied to the lower quadrant of the abdomen. The bowels are to be opened two or three times daily, with salines. Convalescence is usually prolonged. In a percentage of these cases convalescence is interrupted by the development of foci of suppuration which, in my experience, has usually occurred in the broad ligaments, one more often than both being affected. This manifests itself as a unilateral swelling, which can be detected by vaginal, rectal and abdominal examination, and to the sense of touch presents a boggy feeling, a sense of resiliency or perhaps fluctuation. The general condition of the patient usually bespeaks the presence of pus. We find a hectic temperature, and moist skin; the tongue is usually red, but not always so; chilly sensations are complained of, or a decided chill may occur. The selection of the best avenue to evacuate the collection will depend on the point at which it is most accessible; this may be through the vagina or immediately above Poupart's ligament. It is my experience that these cases usually recover. I have seen spontaneous evacuation above Poupart's ligament take place in a number of cases followed by recovery.

The treatment, generally speaking, depends on the stage of the disease, whether it is still localized or circumscribed to the point or place of infection, or whether it is more advanced and associated with constitutional symptoms. If taken early, local treatment will, if thorough, be sufficient for a cure. If, however, it becomes advanced and the body of the uterus, or the internal genitalia be involved, we may have to meet and treat any or all of the conditions I have described here. This class of cases illustrates a point I wish to make, i. e., the early institution of so-called radical measures is true conservatism in surgery.

UTERINE FIBROIDS.*

BY THOS. FITZGIBBON, A.M., M.D.

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MILWAUKEE, WIS.

Fibroid tumors of the uterus originate in its muscular walls. These tumors, as we shall observe, are composed of muscle and connective tissues; hence the names myofibroma and firobromyoma, the prefix designating the more abundant tissue. Uterine tumors composed exclusively of muscular tissue rarely occur.

PATHOLOGY.

Fibroids may be classified from the position they maintain, viz: subserous, interstitial and submucous. As a rule they grow very slowly, may be single or multiple and attain various sizes from a pea to 140 lbs. "Dr. Hunter of New York removed one weighing 140 pounds, which was 55 pounds more than the woman weighed after operation."

The subserous variety develops beneath the peritoneal covering of the uterus, usually, invested by loose cellular tissue, blood-vessels of small size that connect the tumor with the capsule; and, should dense adhesions occur between the capsule and the tumor, they have been caused by inflammatory processes. Large pedunculated tumors may extend into the cul-de-sac and become adherent to the rectum and surrounding tissues, and may produce obstruction to the bowel.

The submucous variety lies just beneath the mucous membrane of the uterus, usually causing a hypertrophy or atrophy of this structure. The breadth of these tumors varies; often they are attached by a slender pedicle, but frequently by a sessile base.

The interstitial variey develops within the walls of the uterus and forms part of it; and the natural tendency of this variety is to change into one of the preceding varieties, and become pedunculated. In all varieties of fibroma the uterus is hypertrophied and the mucous membrane is in a state of inflammation. To the eye the tumor appears white or rosy, the latter color being due to excessive amount of muscular tissue.

Uterine fibroids may undergo various degenerations and alterations during sexual activity and after the menopause. Calcareous degeneration may occur in old women after the menopause; fatty, suppurative, cystic and malignant degeneration may also occur.

"Martin made an interesting analysis of 205 cases of uterine fibroids, fatty degeneration existed in 7, calcification was present in 3, suppuration in 10, in 8 cases the tumor has become cystic, and carcinomatous degeneration had taken place in six cases."

ETIOLOGY.

Although several theories have been advanced we must admit that nothing positive is known as to the direct causation of uterine fibroids. "Byford says the direct cause may be due to a microparasite. Other authors claim that long-continued irritation may be the cause of these neoplasms." While the greatest number are discovered during the menstrual activity, it is nevertheless true that they are also found before puberty. Dr. Jos. Price of Philadelphia has discovered uterine fibroids among the colored women of the South in a large percentage of cases, and during my observation in the past seventeen years I have found these neoplasms in a large percentage of women suffering with uterine symptoms.

SYMPTOMS.

The symptoms of uterine fibroids may be divided into three kinds: 1, constitutional; 2, those that originate in the uterus; 3, those resulting from pressure.

The chief symptom of the submucous and interstitial variety is hemorrhage. This symptom is rarely, if ever, present in the subserous variety. The next symptom of importance is pain, always greatest during the time of menstruation, and consisting of backache and bearing down pain. Suppression of urine may be produced by direct pressure on the ureters, which in turn will produce serious kidney disturbance. We may also have local peritonitis produced by pressure, and the various displacements of the uterus resulting from the position of the growth.

Menorrhagia, metrorrhagia, leucorrhea, backache, pain in the pelvis, down the thighs, sometimes hemorrhoids and serious disturbances of bladder are nearly always present in cases of large fibroids. We have fatty degeneration of the heart, a condition which should not be overlooked, should an operation be demanded. Anemia from great loss of blood and digestive disturbances is present in a majority of cases. Martin has called attention to the liability to embolism and thrombosis, which may cause sudden death several weeks after hysterectomy.

DIAGNOSIS.

To make a positive diagnosis of uterine fibroid in the early stages of its development is not always an easy task, even though our experience may be ever so great. The following differential condition should be considered, viz: 1, pregnancy; 2, retained menses; 3, flexions; 4, malignant disease; 5, subinvolution; 6, inflammatory exudates.

A fibroid uterus is harder and more elastic than the pregnant, grows more slowly, and does not present the positive signs of pregnancy.

Retained menses cause a tenesmus of the uterine walls, but not the hardness of fibroids, and the os will be found closed in cases of retained menses.

Flexions may be differentiated by the use of the sound, which should always be resorted to under the strictest antiseptic precautions.

Malignant disease may be known by the character of the discharge, age of the patient; and, to make a positive diagnosis, the scrapings of the endometrium should be examined with the microscope.

Subinvolution is known by an enlarged cervix, and the history of infection. Inflammatory exudates should not cause much hesitation in diagnosis, as they are accompanied by more or less febrile reaction, sudden onset and acute pain.

PROGNOSIS.

The prognosis in the great majority of cases, in so far as life is concerned, is good, providing the growth does not begin too early in life, and grow so large as to cause death by pressure, or in the submucous or interstitial varieties does not cause death by oft-repeated hemorrhages, or by some malignant or cystic degeneration taking place in the tumor.

TREATMENT.

The treatment is non-surgical and surgical. Under the former we have: medication, manipulation, intrauterine tampons, intrauterine styptics and electrolysis.

Ergot stands at the head of all drugs in the treatment of fibroids. If of the submucous variety, it may cause its expulsion. It may also diminish the blood-supply by contracting the muscles and blood-vessels and thereby causing atrophy.

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Hydrastis canadensis has a very beneficial effect in controlling the hemorrhage. The ergot treatment was faithfully tried by the author in one case, and although a considerable portion of a large submucous fibroid was expelled, the tumor reappeared in a few months, and was removed with the uterus later. Ergot is not always well borne by the stomach, and should then be given hypodermically or in rectal suppositories.

Manipulation is sometimes necessary in order to elevate an incarcerated tumor in the pelvis, intrauterine tampons by means of long strips of iodoform gauze, every forty-eight hours during the periods, and it may be necessary while the patient is being prepared for operation. Intrauterine injections of tincture of iodin or persulphate of iron. The latter is mentioned only to be condemned, as there is great danger of sepsis following.

I have used electrolysis in two cases, with no reduction of tumor; besides, when a strong current is used, it causes the patient great pain, and is often accompanied with danger of sepsis.

Under the head of surgical treatment we may divide as follows: palliative, vaginal, and abdominal operations. In the palliative we curette, ligate the uterine arteries and remove the appendages. Curetting is always indicated from the fact that in nearly all cases the mucous lining of the uterus is in a state of inflammation and, although it must be often repeated, it always gives temporary relief, but should be done with the greatest antiseptic care.

Ligation of the uterine arteries and broad ligaments was lauded to the skies by Martin and Robinson, but recently there has been very little praise for this procedure.

The removal of ovaries and tubes, which was so commonly done a few years ago, by such men as Battey, Hegar and Tait, is now rarely done unless some special reason exists against a hysterectomy or myomectomy. I have performed two operations of this kind the past winter, when a hysterectomy was deemed inadvisable; both patients have been freed from their severe floodings. In order to bring about a cessation of the periods, it is absolutely necessary to remove all the ovary, and the tubes must be tied close to the uterus, otherwise the hemorrhage will occur. The radical operation is preferable per vaginam, when the tumor is small. Vaginal morcellement is practiced in some cases. This operation was performed by Dr. Thos. Addis Emmet thirty years ago. This, too, is accompanied by the great danger of cutting through the walls of the uterus. Radical abdominal operations are adapted to the large subperitoneal and interstitial tumors. Which shall we select, extraperitoneal or intraperitoneal hemostasis? The consensus of opinion at the present time favors the intraperitoneal method. When the ovarian and uterine arteries are ligated on either side, the field of operation is, comparatively speaking, a bloodless one. This procedure was first practiced by Baer and Eastman. The clamp may be used when there is danger to the patient by a prolonged operation. The fact that there is no danger of adhesions, and it affords us the best drainage, should not be lost sight of.

Subserous fibroids, if pedunculated, may be removed by myomectomy, thereby saving the uterus. To control the hemorrhage during operation a ligature may be thrown around the upper part of the cervix, a wedge-shaped incision made, and the parts drawn together after removal of the tumor, by one or more rows of interrupted catgut sutures. In cases where drainage is necessary, this may be done through the vagina or stitching the uterine wound into the abdominal incision and packing with gauze.

In supravaginal hysterectomy the usual preliminary preparation of abdomen, bowels and vagina is necessary; the latter precaution is especially so, should you find the removal of the cervix necessary, or vaginal drainage be indicated. The abdominal incision should be made high, lest the bladder be injured on account of its malposition. Bring the tumor through the wound, ligate the arteries, ovarian and uterine, remove the tumor and supravaginal portion of uterus. Make the toilet of the peritoneum over the stump and close the abdominal wound. As the toilet of the peritoneum is very important, first ligate all bleeding points, cauterize the cervical canal with carbolic acid, close the canal and cover the stump with peritoneum, which is best done with a continuous suture of silk or catgut. Complete removal is indicated when the uterus is septic, or undergoing malignant degeneration, or when a thorough vaginal drainage is needed. The greatest danger to be avoided is tearing or cutting one or both ureters. The mortality of complete abdominal hysterectomy in the hands of the average operator should not be more than 5 or 10 per cent.

The following cases are from my hospital records of the past three years:

LARGE SOLID SUBSEROUS FIBROID, 33 LBS.; SUPRAVAGINAL HYSTERECTOMY; RECOVERY.

Miss F., aged 28, entered St. Joseph's Hospital July 30, 1898. She had sought relief in many quarters, but in vain. The tumor was large and very hard, and had not been diagnosed until just prior to entering the hospital. She weighed 270 lbs., with girth of abdomen 49 inches at the umbilicus; heart, lungs, and kidneys normal. For several years no great inconvenience resulted, except the pressure symptoms and great discomfort in going about.

A hypodermic of morphin, 1/4 gr. and 1-150 atropin was given ten minutes before the patient was taken to the operating-room. Sulphuric ether was given by Dr. Jermain, and I was assisted by Drs. P. H. Jobse, G. Fitzgibbon and W. J. Cronyn.

The first incision was about twelve inches in length about four inches above the symphisis, lest the bladder be wounded. It was found impossible to remove the tumor through this incision; it therefore was continued up to the ensiform cartilage, which made the incision twenty-four inches in length. Three omental adhesions on the right side were tied, and with great difficulty the tumor was turned out of the abdominal cavity.

Both ovaries were considerably enlarged and cystic. To expedite the operation a copper wire was thrown about the cervix and fastened with the écraseur. The uterus and ovaries were then cut away, the peritoneum was stitched to the stump beneath the wire, and the abdominal wall closed by three rows of sutures from within outward, continuous silk sutures closing the peritoneum. Chromicized catgut was used to close the muscles and fascia and integument by interrupted silkworm gut. Immediately after the operation the temperature was 101 F., pulse 90. On the second day after operation the temperature and pulse were normal and remained so until she left the hospital, which was four weeks later.

Three weeks after operation the clamp was removed, and there remained a small fistula, which subsequently closed. The stitches were removed on the twelfth day and the abdomen was closed perfectly. The only an-

noying symptom which followed was an irritability of the bladder at the time of her menses. She is now a strong woman in perfect health and can do her own work.

A LARGE SUBMUCOUS MYOFIBROMA WITH SESSILE BASE, TREATED FIRST BY ERGOT, LATER BY MORCELLATION AND FINALLY BY SUPRAVAGINAL HYSTERECTOMY.

Mrs. R., aged 24, presented normal lungs and kidneys, anemic heart murmur, and herself very anemic from loss of blood. Large doses of fluid extract of ergot were given, and brought on severe uterine contraction, which expelled large masses of tumor, enough to fill a large fruit-jar. The patient's hemorrhages reappeared in two months, whereupon she was removed to the Presbyterian Hospital, and with the assistance of Drs. G. A. Kletzsch and L. Jermain an effort was made to remove the tumor by morcellation. With the hope that all the tumor had been removed, she returned home one week after operation.

Three months later the tumor was as large as ever. Menorrhagia and metrorrhagia were worse than at any time previous; therefore a supravaginal hysterectomy was advised, and she was again sent to the Presbyterian Hospital for operation, and was ordered to drink large quantities of milk and given 1-20 gr. strych. nit., hypodermically, every six hours for three days previous to operation.

Abdominal incision, 8 inches, resulted in the extraction of a 5-lb. uterus and tumor; clamp applied.

As in the first case, the patient recovered very promptly, and is well and doing her household duties, with no hernia at the present writing.

A CASE OF INTERSTITIAL FIBROMA IN WHICH PREGNANCY PROGRESSED TO FULL TERM. PORRO'S OPERATION. RECOVERY.

Miss R., aged 29, height 3 ft., weight 100 lbs., has antero-post. diameter of brim of pelvis 2½ in., lateral 5 in. Although a dwarf in stature, she has never suffered with hemorrhages or pressure symptoms, and no tumor was suspected until she entered hospital for Cesarian operation. After the gravid uterus was rolled out on the abdomen, it was decided to remove the uterus on account of the presence of fibroid. There were present, at operation, Drs. Kletzsch, Jermain, Scollard, Fitzgibbon, and Hayes. The clamp was also applied in this case and the stump was entirely healed in four weeks. The patient made an uneventful recovery, and is well and able to work to-day. No hernia has resulted.

DISCUSSION.

DR. G. B. MASSEY, Philadelphia—The Doctor used the word electrolysis in describing the various methods employed in the treatment of fibroids. Although this word is very frequently used in connection with the electric treatment of fibroids, yet I think it is an unfortunate one. Its use probably accounts for some of the poor technic in the electric treatment of fibroids. It gives the impression that the tumor is to be destroyed by the electric current. Electrolysis is the chemical dissolution of the electrolyte. Although electrolysis always accompanies the direct current and is a most important portion of the Apostolic treatment, it is by no means the whole element. We must get the greatest amount of electrolysis in the shortest time; we must have the contracting effect of the current. I avoid the word electrolysis and simply use the word electricity. The trophic action is what we want, and the trophic action on the peculiar growths of which we know so little must be gotten by careful testing and patient methods. We can not rush in and dissolve these tumors without getting ourselves into trouble; hence we have those hasty reports of a method so highly recommended by Keith and others throughout the world. I myself have been able to make an addition to the technic which would prevent some of the results of inexperience, among them that of sepsis, from unwise pushing of the current. When I say "unwise pushing of current," I mean using too long an application of a strong current, making the application twice as much as is necessary. To do this work requires a period of time of from three months to a year. The patient must therefore make some concession, and the physician must concede something in his attempt to make an impression on this growth which will make it innocuous and at the same time preserve to the woman her womanly functions and her abdominal wall intact. The improvement I allude to is the use of mercury on the zinc anode, particularly in hemorrhagic cases where we might have a little septic trouble from unwise pushing of the current. The result of the use of mercury is the production of the oxychlorid of mercury at the seat of application, which makes it absolutely aseptic. Of the kind of tumors that are suited to electric treatment, probably the first are the hemorrhagic cases. These can be cured by patience. The other kind are the little tumors that we have heard so much about in the Section on Surgery and Anatomy. They grow from a minute nodule, and at that time they are treated for prolapsed uteri, etc. Of such cases 100 per cent. can be cured by electricity in from two to four months.

DR. WILLIAM H. WATHEN, Louisville, Ky.—These tumors, in a histogenetic sense, must necessarily be myomatous, the fibrous structure afterward developing and sometimes possibly becoming fibroid. If I understood the gentleman correctly, he used a clamp, and treated the pedicle externally in these operations. Is that correct?

DR. FITZGIBBON—I used it in three cases.

DR. WATHEN—I do not feel we can recognize as a scientific principle the extraperitoneal treatment of the pedicle in any kind of tumors by the clamp. There is either the treatment of the entire removal of the tumor of the uterus, or the removal of the tumor and of the uterus except the cervix. Each of those two methods has its advocates, and it is not possible for any one of us to say that either procedure must take precedence over the other in all operations. There are instances where possibly one procedure is better than the other, and vice versa. I do not believe there is anything in the argument, however, that the leaving of the cervix is of any benefit whatever in furnishing a strong vaginal vault, and it certainly has the disadvantage of leaving a structure in which malignant disease is more liable to develop than in the vagina or the ovary. In these operations we should do as much conservative work as possible, and I was a little surprised to hear the statement made that the so-called fibromyomatous tumors are in every instance amenable to treatment by electricity. I can hardly conceive of a case in which electricity is at all indicated in dealing with this class of tumors, and I think it has done untold harm, and those of us who have treated cases time after time following the use of electric treatment know the mischief it has done, and we know better than anyone else how it emphasizes the belief that there is no field for this method of treatment in dealing with these growths. We should be conservative, but we should resort to surgical treatment when the ordinary medicinal treatment will not relieve the symptoms, or a curettement, etc. In dealing with these cases surgically, we need not necessarily remove the uterus. We have learned in the last two years especially that there are many cases in which we can enucleate one or more fibroid tumors from the substance of the uterus, and by proper suturing leave the uterus so that it is capable of performing its normal function and of bearing children. So the treatment that we ought to develop above all other treatment, when surgical measures are indicated, is that of myomectomy, saving as much of the uterus as possible.

DR. T. A. REAMY, Cincinnati, Ohio—I can not keep my seat any longer after hearing the remarks of my friend from Louisville on the subject of electricity in the treatment of fibroid tumors. I must call a halt. By what authority does Dr. Wathen denounce the use of this agent; proclaim that such treatment ought not to be recognized? I am not an electric expert, but have a fairly clear apprehension of the principles which should guide in its use—with some practical experience. I do not, however, resort to electricity in dealing with uterine fibroma except in carefully selected cases. In most cases demanding treatment I resort to surgery. But certainly in more than fifty cases within the past few years, in which I have employed electricity, the tumors have ceased to grow, have diminished in size, and in some instances have disappeared, these women remaining well. Other men of more skill and larger experience than myself have had even better results. There are many general practitioners who use electricity with intelligence in such cases, and see their cases improve. The hemorrhages cease; the tumor or tumors cease to grow; the patients enjoy good health; and in my judgment many of them are fortunate in avoiding the

unnecessary mutilation ready to be surgically inflicted either by Dr. Wathen, myself or some worthy colleague.

Many of these cases, as is well known, but in some quarters denied, will recover without any treatment whatever. But I repeat that when truthful and competent men report cases cured by the use of electricity we are bound to credit their statements, at least until they are disproven. That the experience of my friend from Louisville is to the contrary does not count, for he has never had sufficient confidence in the remedy to enable him to learn how to use it properly. Gladly do I believe him on other subjects. On this he is not a credible witness. He denounces everything not surgical as unworthy, unscientific, useless. When he or any other surgeon can show a record of 100 per cent. over a long series of cases cured by surgery, then, but not until then, may he denounce all other methods.

In a large percentage of cases surgery is our only refuge; and its possibilities in the field are marvelous. But let us not weaken the arm of surgery or detract from its glory by unnecessary mutilations.

DR. HENRY O. MARCY, Boston—Little did I think I would have to cross swords with my distinguished friend from Cincinnati, Dr. Reamy, and I am sorry to say that I have to differ with him in regard to the use of electrolysis in the treatment of fibroid tumors. I followed the work of my friend, Dr. Kimball of Massachusetts, and that of his successor, Dr. Cutter, till I was thoroughly satisfied that electrolysis as they advised was a misnomer if it was used at all in the sense of cure. When in London, in later years, I met Apostoli, and became familiar with his work. Ten years ago, after he had attended a meeting of the International Medical Congress, held in Washington, D. C., I invited him to Boston, where patients submitted themselves to his personal treatment. I purchased an electric outfit, made over a thousand applications, and kept careful notes of the cases so treated. The results were unsatisfactory. The surprising thing to me was that every patient declared herself as feeling better; but in a judicial sense, after careful investigation, I did not find a single patient that I thought was even moderately benefited. I believe the consensus of opinion of two continents is in favor of the surgical rather than the electric treatment of fibroid tumors.

DR. ALBERT GOLDSPOHN, Chicago—After having heard both sides of the subject of electricity in the treatment of fibroid tumors represented by the opponents and the defenders, I think it is well for one on neutral ground to say something. Electricity does make a patient feel better, and it is not simply a matter of suggestion, either. Electricity does largely do away with that pelvic hyperemia, that venous engorgement of the entire pelvis that exists when such neoplasms are present. We get a beneficial action by electricity without encroaching on the "Holy of Holies"—the endometrium. The introduction of the positive pole into the uterine cavity stands on a par, as far as the danger or good is concerned, with the introduction of a red-hot wire, the actual cautery. It is not rational because we can not evenly apply it to all parts of the endometrium for mechanical reasons, which anyone can see if he thinks for a moment. There is an excessive action in many places and no action at all in others, so that at the end of a week or so there is a culture-bed for germs that are very often septic. The result is a worse condition rather than a better one. The routine introduction of the positive pole into the uterine cavity by the general practitioner is most reprehensible. It is better to use electricity in cases that are dangerous for surgery, that have valvular heart disease, or organic kidney lesions. Use electricity for what it will do in those cases.

With reference to surgical treatment, we should bear in mind that all operators at the present day recognize one ideal standard of tying or clamping of vessels outside of the uterus rather than the use of any constricting ligatures or clamps. If the cases can not be dealt with by myomectomy, where the uterus is to be removed, it is a great deal better to remove the entire uterus, cervix and all, which does not really involve any more labor than to do a supravaginal amputation, and it is for various reasons a decided advantage for the patient in future years.

DR. JOSEPH EASTMAN, Indianapolis, Ind.—There was one point mentioned by Dr. Massey which I can not allow to go unchallenged. He speaks of cases which, after a thorough course of treatment by electricity, etc., may be turned over to the surgeons. I think the surgeon whose diagnostic acumen has been thoroughly cultivated by a few thousand operations in the abdomen, and whose observations of the subjective symptoms and objective signs presented are practical, is much more capable of making a diagnosis and suggesting what cases should be selected for the surgeon and what cases should be turned over to the electrician than the man who has spent a little of his life in using electricity in connection with fibroid tumors. These cases should be first examined by men of the greatest diagnostic ability, before they are turned over to the electrician. A large number of fibroid tumors contain calcareous deposits, associated with suppurating pus tubes. These are bad cases for electricity. I find few cases that are curable by electricity, but a larger number of them are susceptible to surgical treatment rather than to electricity. Electricity has its field in the treatment of fibroid tumors, although it is a very limited one.

DR. C. D. PALMER, Cincinnati, Ohio—This is an interesting, yet serious, question. I do not believe any one method of treatment is suitable for all cases. The patients must be individualized, and the treatment adapted to the individual case. The first thing to consider in the management of a fibroid tumor is to ask ourselves what will Nature do? Nature is perfectly competent to manage some of these cases; a number of them will get well if left alone, and the best thing for us in some cases is to do nothing. In the second place, let us ask ourselves, after we have found out a reply to that question by the history of the case, what will medicines do? I have very little confidence in medicines, as recommended by a Philadelphia physician, such as bichlorid of mercury, muriate of ammonium, and iodid of potassium. Iodid of potassium is excellent if a patient is syphilitic, but all medicines do very little good in the treatment or dissipation of these tumors. I will except that remedy which seems best adapted for interstitial fibroids or those that are intramural. I refer to hydrastis canadenis. As to surgical treatment, we again must individualize our cases. It is true, we may have to take out the whole tumor, including the cervix, provided the cervix is diseased also. Myomectomy should be resorted to whenever it is possible, and practically when all of the fibroid infiltration can be removed, and the essential structures of the uterus remain undisturbed. A pregnancy and parturition may follow a most thorough myomectomy. A myomectomy will not do if the fibroid infiltration, although small, is left behind. Curettement of the uterus is a most admirable remedy for the treatment of these tumors; nearly all cases are more or less benefited by it. The tumor may be reduced in size after a curettement has been done. In interstitial or intramural fibroids, electricity may be used with benefit; it not only makes the patient more comfortable, but arrests hemorrhage. The main point is to study each case, find out the size of the place and kind of tumor, and govern the treatment accordingly. I consider the Baer operation the best to employ when an abdominal section is made, unless, in very rare cases, the cervix uteri has also undergone fibroid infiltration.

DR. J. WESLEY BOVEE, Washington, D. C.—I want to call attention to the danger of septic infection following curettement in many of these cases. I do not consider it by any means a simple operation. I have seen three or four cases of septic infection following currettage for fibroid tumors where there was encroachment on the uterine cavity by growths sufficient to cause considerable bulging, so that the parts above could not be curetted. It is only a partial operation and is certainly attended with some danger.

DR. T. FITZGIBBON, closing the discussion—In order to go over such an immense subject as this I had to skip many important points. I reported three cases as having been operated on by the extraperitoneal method, believing that this is the best method for those cases. My experience with electrolysis has not been sufficient to commend the treatment, but I am pleased to know that some of the members of the ASSOCIATION have had better results than I have in the few cases I have treated with it.

THE LIFE of a talented, successful, unscrupulous, young Paris surgeon is sketched with remarkable technical fidelity in a recent French novel, "Le Mal Necessaire," by A. Couvreur. To supply his insatiable need for money, the young surgeon operates right and left, regardless of everything save the purse of his patients. He takes advantage of a young woman in a cataleptic condition, and when consulted by her parents a few months later, diagnoses a tumor and operates. The chief interest in the story is the psychologic study of his assistant, an honorable man, who learns the circumstances.

SOME RADICAL CHANGES IN THE AFTER-TREATMENT OF CELIOTOMY CASES.*

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The purpose of the changes which I have worked out within the last four years has been to free the patients from many irksome and disagreeable features of the after-treatment as usually carried out, and at the same time to make their recovery more rapid and more complete, so that they are able to leave the hospital at a much earlier date than has been customary and in such a condition of strength that they can follow their wonted occupations within a few days after their discharge from the hospital.

The first impulse for these changes has been given by the observation of patients on whom vaginal celiotomy had been performed. I found, just as other surgeons did who used this method, that after intra-abdominal work done by the vaginal route with subsequent complete closure of the peritoneum and vagina by sutures, the patients could be fed like perfectly healthy persons and could be allowed to be up and walking about in a remarkably short time. Very soon I found that the period for which it was advisable to confine such cases to bed could be counted by hours instead of days, so that of late I have allowed my patients to get up within twenty-four to forty-eight hours and to leave the hospital four to six days after their vaginal celiotomy. I could not fail to notice that these same patients did not present the picture of listlessness and muscular weakness which the same category of patients present after the performance of the same operations by the abdomen with the usual after-treatment. I refer here to operations on the uterus and appendages, from the simple salpingostomy or retroflexion operation to the extirpation of uterus and appendages.

Though these intra-abdominal operations very frequently necessitate manipulation of the intestines and the omentum, I have never insisted on causing the bowels to move within the first few hours after such operations, and I have found it easy to make them move with a simple enema on the first or second day after the operation. Very often I have found that if left alone they would move naturally. This is infinitely more comfortable for the patient than to be filled with salts as soon as the operation is finished, as some operators recommend. I must add, however, that in the preparation of the patient for the operation I omit the customary efforts toward getting the bowel as empty as possible, because I fail to see how we can expect the bowel to move easily if, previous to the operation, we have insisted on producing a condition of as complete emptiness of the bowels as possible. Many text-books still contain the statement that early action of the bowel is a preventive of peritonitis. This statement is another example of how frequently the cause is mistaken for the effect. If there is no infection of the peritoneum it is easy to move the bowel. If there is infection it is extremely hard to produce a good bowel movement. In the first case it is not the bowel movement which prevents the infection; it is rather the absence of infection which permits of the easy action of the bowel. In the case of infection of the peritoneum it is not the absence of the bowel movement which causes the peritonitis; it is rather the peritonitis which prevents the free action of the bowel. The study of this question in the light of modern research makes this perfectly clear, so that we need not hesitate to establish the maxim that early action of the bowel is a point of diagnostic or prognostic importance rather than a therapeutic or prophylactic factor with reference to peritonitis.

While these rules were being established by my observations I found that patients who got up early and whose bowels acted regularly and easily presented another symptom which necessitated a further change of the customary after-treatment. These patients were hungry. They were not satisfied with milk and soup or liquid diet generally. They had some muscular exercise, being permitted and encouraged to turn over in bed immediately after their operations, being allowed to be up and about as early as twenty-four hours after the operation. They became hungry and the question arose: could it be permitted to give them something more nutritious? The intraperitoneal stump of organs removed by this method and the suture of the peritoneum and vagina did not seem to form any objection to having a little more fecal matter in the bowel, and so I began to give them meat, bread, vegetables as soon as peritonitis was proven to be absent by the observation of the general condition, pulse and temperature and by an easy bowel movement about twenty-four hours after the operation. To my gratification the patients thrived under this treatment so well that now I allow them every reasonable kind of food in liberal quantities as early as twenty-four hours after the operation. Two things are achieved thereby: the bowel containing fecal matter in moderate quantities experiences the most physiologic impulse to regard action and requires very little attention, and the patients are not being starved and can keep up this muscular activity, which in its part contributes toward the physiologic action of the bowel.

Where cases presented adhesions, where more or less raw surfaces were left on parietal peritoneum or bowel or pelvic organs, such liberality at first seemed little short of temerity. But when I thought the matter over, I remembered how often it had been observed that enormous, apparently inseparable adhesions found in one celiotomy had in a subsequent celiotomy on the same patient been discovered to have disappeared completely and solely by the peristaltic motion of the intestines. I, therefore, arrived at the conclusion that a well-filled intestinal canal and regular peristaltic motion, far from being detrimental, are really the only reliable means of breaking up old and preventing the formation of new adhesions. The practical consequence was that in cases where extensive adhesions were found, whether they were broken up in the course of the operation or not, I gave the patients solid food in liberal quantities very soon after the operation, and my patients have fared well under this treatment. I have yet to see my first case of ileus after a vaginal operation, be it hysterectomy or whatever else it may be. I have not had one single death from vaginal celiotomies in four years, though I have had over a hundred of them. I have had only one death in over sixty vaginal hysterectomies within the last four years, and this was a case of puerperal streptococcus-sepsis with very little pus, a case in which operation was performed as a last resort, with a temperature of 105, death ensuing twenty-four hours after the operation. On the other hand, I have had the pleasure of seeing these cases leave the hospital within a week from the operation in cases of vaginal celiotomy, and within ten days from the date of the operation in the case of vaginal hysterectomies, if they were done with the suture method. The patients go home not as anemic, stooping wrecks with backache, dizziness and general muscular weakness, but as erect as any of us, and able to work the day after they come home.

I have frequently been asked by our Post-Graduate students how I manage to render my patients able to be about so early after the operation; whether I give them any special tonics and so on. I do nothing of the kind; they do not even get the much-beloved strychnia. All I do is what the general surgeons nowadays attempt to do in cases of fractures and dislocations, etc. I am telling the surgical Section of the ASSOCIATION nothing new if I speak of the prevention of muscular atrophy in operations on joints, muscles, bones, etc., and they will easily understand me if I compare the work under discussion with their work in general surgery. Put a patient to bed for six weeks and tell the patient to move as little as possible and after the expiration of the six weeks let that patient get up. Would you be astonished if that patient's muscles after general inactivity for six weeks are unable to perform physical functions? Is it not rather exactly what you have seen and see every day in general surgery when a joint and its muscles have been out of use for some length of time? Patients with intra-abdominal operations do not need any special treatment or any special tonic in order to prevent that atrophy, but what they do need is the use of their muscles, and if we do not prevent them from using their muscles we have no atrophy. I am glad to report these observations to the surgical Section, because this special point will, I am sure, be appreciated by the general surgeon.

The objections which might be raised against this régime in vaginal celiotomies have proven to be without foundation in my work. I have seen neither vaginal hernias nor hemorrhages, external or internal, nor any other subsequent trouble that could be attributed to this kind of after-treatment.

So far we have discussed vaginal celiotomies exclusively. But when I had observed the course of convalescence of these cases for some time I began to doubt the wisdom of the customary after-treatment of our ventral celiotomy cases. The only difference that I can see between a vaginal celiotomy and a ventral celiotomy, aside from the question of the organs operated on or removed, lies in the ventral incision. The incision in vaginal celiotomy or vaginal extirpation of the uterus and appendages is small in comparison with the ventral incision necessary in many of the abdominal operations and the chances of a vaginal hernia are correspondingly smaller. But the recent work of Abel on hernia after ventral celiotomy has furnished conclusive evidence that the occurrence of ventral hernia depends entirely on the accuracy of the suture in layers and the absence of infection, while all other factors, including the wearing of a binder, are of secondary importance only. With regard to the firmness of the suture it is entirely indifferent how early the patient leaves the bed, though we have been accustomed to being afraid of putting the suture on a strain soon after the operation. Here again I wish to remind you of conditions prevailing in the work of the general surgeon. Suppose you operate on a neck or a chest, do you forbid the patient to use the muscles of his neck or his chest in breathing or coughing? Suppose you operate on a tongue, can you keep that tongue absolutely quiet? Suppose you operate on a bladder or on a bowel, do you believe you can keep them at absolute rest? Or suppose you perform a suture of a vein, do you propose to prevent the blood from flowing through that vein? You certainly do none of these things, and what about the healing of these wounds? Do you or do you not expect primary union and therewith a firm, reliable cicatrix? Well, that being the case, how about the abdominal incision? First of all, remember that if you attempt to keep the abdominal suture absolutely quiet, you must know that you cannot do it. Every breath, every heart-beat, every variation in the quantity of the abdominal contents, every filling and emptying of the bladder, of the intestines, moves the abdominal wall, not to mention at all that it is impossible for a patient to maintain absolute rest. Secondly, you know from operations on organs which you cannot keep at absolute rest that primary union of operative wounds in these organs takes place all the same if you keep out infection. So, theoretically, we must arrive at the conclusion that it is not necessary to keep up strict injunction of rest. Practically I have tested this in many cases and the result corresponds absolutely to that observed in cases of vaginal celiotomies. Many of my patients with ventral or inguinal or lumbar incisions have sat up as early as three days after their operations; others I have kept in bed until after the removal of the stitches on the sixth to the eighth day, the superficial layer of stitches which comprises skin and subcutaneous fat alone and which I usually make with silkworm being removed at that time, the deep layers sutured with catgut having by this time united firmly. All the patients, however, are permitted to turn over and move about in bed as soon and as often as they want to. The consequence here as in vaginal celiotomy is prevention of muscular atrophy, rapid recovery of strength and discharge from the hospital about twelve days after the operation.

The intestinal canal is managed in ventral celiotomies as in vaginal celiotomies, no efforts at complete evacuation before the operation and no effort at artificial diarrheas after the operation. As to the relation between peritonitis and early action of the bowel, the same principle holds good as in vaginal celiotomy. The feeding of the patient is also carried out after the same rules as described above. Intestinal operations make no exception to this rule. Patients with bowel sutures or with mechanical appliances in their bowels are permitted solid food after the first bowel-movement, the only special precaution which I use in these cases being a strict order that the patient must chew the food very carefully.

My patients do not wear any binder of any shape or kind after their ventral incisions, and I have still to see the first hernia. I have to add that I do not use any drainage in order to be able to close the abdominal wound completely. I have to use packing sometimes, which is an entirely different thing. I know, however, beforehand that where packing is used and brought out through the abdominal incision I have to expect hernia and I have seen small hernias develop in every one of the very few cases where I have used packing. But in these cases I keep the patient in bed longer than in the cases in which the abdomen has been closed completely, because I know that I have to deal with an imperfect abdominal wall, through which prolapse of the intestines might take place. When the abdominal incision suppurates—and I am sorry to have to confess that I am probably the only surgeon here in whose cases suppuration takes place sometimes—I let the patient be up and about, but I put on adhesive plaster strips in order to approximate the edges of the suppurating wound and incidentally in order to reinforce the abdominal wall.

The changes which I have reported here have not to my knowledge been carried out anywhere else to this extent. I can assure you that with the proper asepsis and with the proper method of suture they can be introduced everywhere, not only without detriment to our patients, but to their positive gain and advantage. It means a great thing for a business man or a laborer or their wives

to be able to attend to their work two or three weeks after an abdominal operation, and it means a great deal to the nervous, cossetted millionaire or his wife to be put on their own feet in a short time, rather than to be confined to bed, having their weak backs and general debility increase rather than disappear after the operation which was to cure them.

100 State Street.

DISCUSSION.

DR. THOS. H. MANLEY, New York City—It occurs to me that of all the papers that I have heard to-day the last one has not been the least one in importance to the practical surgeon, because it opens up in its way practically a new epoch in the therapy of a very serious, and, as it has become recently, a very large class of lesions; it certainly is one of the most valuable contributions to practical surgery that I have listened to or read for a long while and I regard it as most valuable, because my experience leads me to believe that the observations contained therein are correct. It is valuable, because it points to the improvement accomplished in a very little time by observing simple principles. You all know how we are chained down by authority and tradition in a great many ways. The Doctor makes a plunge here, and shows that it is not only not necessary but harmful to keep a patient in bed four or five days after many a laparotomy, unless we have such conditions as to point to the necessity for it; that as soon as the patient has an appetite she should have something to eat, and such food and in such quantities as agrees. He shows us great saving of time and money, which is a vast object to poor people going in to expensive hospitals.

There is another point—dispensing with drainage. Ten or fifteen years ago every kind of incision was packed with drainage-tubes, by which we killed a great many. The Doctor showed in certain cases the importance of dispensing with the drainage-tube. I would like to ask him whether, in cases where there has been an extensive operation, where it has been found that there has been a considerable parenchymatous hemorrhage, he would let his patients get up?

DR. FREDERICK HOLME WIGGIN, New York City—It has been my experience that the tendency in treating patients on whom an abdominal operation has been performed, is to withhold food too long a time, and when it is supplied to give it in insufficient quantities. It has been my custom to give these patients nourishment as soon as they are able to take it, and in such quantity and quality as they are able to digest. I have also found, as a result of my work, that it is not necessary to keep these patients very still after the performance of either vaginal or abdominal operations—by incision through the abdominal wall. Last year a patient on whom I performed vaginal hysterectomy left her bed while the nurse's back was turned, within six hours after the performance of the operation, went to the closet, removed the dressings and returned to bed again, without any ill effects following. Another patient on whom laparotomy had been performed, fell out of bed the evening following the operation, and notwithstanding this accident the abdominal wound healed primarily.

As to the action of the bowels after the operation, it is a matter of considerable importance to patients when they are doing well that the bowels should not be moved too soon. The patient is necessarily somewhat weak, and suffers from more or less nervous reaction, and if the nausea incident to the administration of the anesthetic ceases, and the patient begins to desire food or nourishment, it should be given, and it is well in such cases to omit cathartic medicine for a day or two. If, on the other hand, the patient continues to vomit, or is more or less disgusted with food, eighteen hours or so after conclusion of the operation, then the quicker we get the bowels to act, the better it will be for the patient. I have seen many instances where a neglect of this procedure for a few hours, meant the death of the patient, for as a rule, this condition indicates the beginning of intestinal paresis, which condition can not be overcome if it is allowed to get much headway. The symptoms of this condition are, beginning eighteen hours or so after the performance of an abdominal operation, first a tendency of the patient to constantly vomit a light-colored fluid which next becomes tinged with yellow, and later darkens to a brown, accompanied by increasing abdominal distension, prognosis becoming less favorable with the darkening of the fluid, and the degree of abdominal distension. As soon as the condition is recognized, a rectal tube should be passed into the patient's bowel and a seidlitz powder immediately given. If this is rejected, it has been my custom to give another within fifteen minutes, and if this second powder is not retained, then to pass a tube into the patient's stomach, and after letting all the gas escape through it that will, to wash out the stomach with saline solution, and then to leave there from two to four ounces of saturated solution of sulphate of magnesia, when the tube is withdrawn. Since I have come to recognize this condition in its early stage, and have followed the line of treatment already indicated, none of my patients, to the best of my recollection, have died of intestinal paresis, although formerly many of those on whom abdominal operations had been performed died as a result of this complication.

DR. F. C. SCHAEFER, Chicago—I simply rise to make the statement that I have been familiar with Dr. Ries's work. He has certainly obtained remarkable results. The work has interested me to such an extent that I have followed the same course with satisfaction.

DR. C. L. BONIFIELD, Cincinnati, Ohio—I regard this paper as a very interesting one, but interesting as showing a possible method of treatment after abdominal section, rather than the proper one. The Doctor has proven that the incision will heal if the patient is not kept in bed. Few of us doubted that. A dog breaks his leg; the fragments are not held together by any kind of splint; union takes place. The result, however, is not such as to induce surgeons to adopt this method of treatment for their patients with similar injuries. The fact that the incision in the abdominal wall will unite after a manner if the patient is not kept quiet should not lead us to respect this measure, which common sense dictated and experience has sanctioned.

The experience of ages is not to be thrust aside in a minute. But there is a limit to all things. A patient may be kept too long in bed. Many operators doubtless have done this, and many more will now let them up too soon, for doctors are prone to believe that anything new is an improvement. We are not unlike a flock of sheep that follow the bell-wether wherever he may lead.

DR. EMIL RIES, Chicago—The first question I have to answer is the following: You say it can be done. Is that any reason why it should be done? Yes; if you can save a patient three or four weeks' stay at the hospital, don't you try to do it? If you can save the patient money or discomfort isn't it worth while? Whatever we can do toward alleviating the suffering of our fellow-beings, isn't it our duty to do that? We have to do it as soon as we can; it is our duty—that is what we are physicians for.

I have also to answer Dr. Manley's very kind remarks, and in answer to his question, I would say that I have used in the deep layers formaldehyde catgut, boiled and kept in alcohol; you can boil it as long as you wish, and it will not become brittle.

As to packing, rather than put in a packing, I would leave small bleeding surfaces, or try to stop them by the customary means of a hot sponge or of the cautery applied a certain distance above the bleeding surface, because in this way I can close the abdomen completely. You can not operate on a peritoneal cavity full of adhesions without having some exudate, but in these cases especially I insist on early, liberal feeding, so as to get the bowel full; as long as it moves it does not become adherent; if it is kept quiet it will become adherent.

Dr. Wiggin very properly mentioned cases of patients who get up without the advice of the physician. Six years ago I was in Naples, and in Morisani's clinic the assistant showed me a case of symphysiotomy that had got up the night after the operation, and had walked through the ward to get some water, and all the dressing she had on was a towel around the pelvis. I saw the case more than a week after that escapade, and she had a firm pelvis. Similar observations of laparotomy, patients getting up without permission, have demonstrated time and again, that the incisions heal all the same. I must repeat, if it can be done it ought to be done.

Health in Indiana.—The report of the state Board of Health concerning disease in Indiana for July shows that the diseases which increased in area of prevalence during that month were: diarrhea, cholera morbus, dysentery, cholera infantum and malarial fever. All of these, except malarial fever, are called filth diseases, and would not appear in the hot months if we would but so dispose of all excreta as to prevent access of flies, and prevent the same from getting into the water-supply. The diseases decreasing in area of prevalence were: typhoid fever, erysipelas, measles, bronchitis, pleuritis, whooping-cough, diphtheria, pneumonia and scarlet fever. Dysentery has been epidemic in several towns, notably in Liberty Center and Covington. The total deaths so far, at these two places, have been 26, with probably 100 cases.

THE PROGRESS OF SURGERY.*

BY HERMAN E. PEARSE, M.D.
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Standing on the threshold of the twentieth century, and looking with the eyes of hope at the future of our noble profession, let us remember that the splendid progress of the past fifteen years has been made possible only by the solid foundation builded by those whose hands have laid down their scalpels forever; who watch us now from the great unknown, let us hope, in our feeble struggles to attain perfection in our art. These surgeons who upheld the profession in the long past struggled against a series of obstacles, and with a succession of handicaps that are appalling to contemplate at the present day. They had no method of controlling hemorrhage save by the cautery or direct pressure. They were compelled to operate without anesthesia. Their knowledge of anatomy was as limited as one would expect from the strenuous opposition offered to human body dissection. They knew nothing of infection as applied to surgical wounds. They were powerless to follow by the perfect microscopes, now at our command, the tissue-changes incident to growth, repair, death and morbid change in living tissue. In the face of such appalling conditions, who of us would have accomplished more than they?

In scanning the work of the past, three strongly marked epochs have been pointed out by medical historians. Prior to 1552, or until within 350 years, there was almost no progress in surgical art. At this date Ambroise Paré, then a barber, used ligatures for tying vessels and controlling hemorrhages, instead of the cautery, as his predecessors had done. This enabled the surgeon to work boldly, and beyond the former limits of his craft. He cut more freely, he feared fatal hemorrhage less, and has been increasing the usefulness of Ambroise Paré's invention by new modifications of the ligature, up to the present year, when the formalin preparation of catgut and kangaroo tendon has enabled him to do plastic work in hernia, and indeed, all kinds of surgery of finer grade of manual work, with an ease and a certainty of cure heretofore not to be hoped for.

The second epoch in the progress of surgery was marked 300 years later and only forty-three years ago, when, in 1846, Morton, the Boston dentist, gave to the world the ether anesthesia, and one year later the discovery of chloroform rounded out the measure of this great boon to mankind, and "opened wide the throttle" for the surging advances of operative procedure.

The third epoch was ushered in by Pasteur, in 1856, when he discovered and proved that fermentation could occur only as a result of the presence of certain microorganisms, some of which he isolated and fully described. It was fully completed by Sir Joseph Lister, who in 1867 gave to the world his theory of wound infection and elaborated the antiseptic methods of wound dressing. Nothing was now lacking. Hemorrhage, the dread of all conscientious surgeons, was conquered, pain was banished and quiet insured; inflammation and suppuration were held in the grasp of the surgeon's strong hand, and eliminated at his will.

Progress in surgery may be measured along these three lines. Our diagnostic skill, to be sure, is increasing, but only in connection with the splendid work, even better than our own, coming from the purely medical branch of our profession—the internal medicine men. New routes of attack in special cases have been devised and perfected, many of them by the gynecologist—who is a surgeon first, and a specialist afterward, and who has solved many of our most vexing problems, laying them as free offerings upon the common altar of professional attainment—but for all these, we may yet, as surgeons, measure our successes, measure our advancement, control our death-rate and raise the percentage of perfect cures by observations along these three lines: 1, the ligature and suture; 2, the anesthetic; 3, the technic as ushered in by Lister and simplified by the many who have followed him.

*Read before the Missouri State Medical Society, Sedalia, May 16-18 1899.

LIGATURES AND SUTURES.

The profession is coming away from silk more and more, as catgut is perfected. The preparation of this material by the cumol process and by the formalin process, with or without chromicization, makes a suture so strong, so flexible, so surely and certainly sterile, that we are with one accord dropping all else. The use of silver wire in infected regions and for certain plastic work is still much in vogue and to be recommended. The silkworm gut is likewise a fixture under some conditions. In true surgical work, however, in aseptic surroundings and where perfect results are hoped for, catgut has no rival. The use of kangaroo tendon and allied animal sutures in such work as the repair of hernia and ruptured peritoneum has become general. Under its beneficent influence the ratio of perfect cures of hernia has so risen that it is rare indeed, to find an advocate of any other material for use in the union of the more powerful structures to be approximated and held in hernial operation.

Anesthetics.—Perhaps the most notable progress in the art of anesthesia rests in the application of nitrous oxid—"laughing gas"—to general and prolonged narcosis. Children, and patients who have recently filled their stomachs, patients known to suffer badly from the after-nausea of chloroform, or whose lungs and kidneys are too badly damaged to permit ether as an anesthetic may be anesthetized by this means quickly and with satisfaction. I have seen Dr. Bennett, formerly of Kansas City, now of the New York Hospital, keep a patient under anesthesia by this agent for half an hour at a time, without bad result, and to the operator's satisfaction. As an adjuvant to ether it is used, on account of its rapidity and its effect in the beginning of the anesthesia, to be followed later by ether, as a less expensive and more permanent agent. Ether, in the old, old controversy between ether and chloroform, still continues to win its way to the front. There can be no doubt in my own mind as to its increased safety and if it were as easily used as chloroform, and if it once acquired its deserved popularity with the mass of physicians, chloroform would be still less often employed than is the case at present. Deaths from chloroform due to paralysis of the heart are still quite common and comparatively unavoidable.

Technic.—As regards technic, the third line along which our progress may be estimated, the energy of the surgical world is now directed to the margin between the ideal death-rate of 3 per cent. and the actual one of 15 per cent. to 20 per cent. The profession have emphasized in the past year that asepsis and not antisepsis is the proper safeguard for the patient, and the latter is used only as a handmaid, so to speak, to the former—a stepping-stone by which it may be reached. The normal salt solution, sterile and non-irritating, has supplanted the bichlorid or carbolized solution as an irrigating material, and for cleansing the hands during the opera-

tion. The autoclave with its tremendous sterilizing power renders it unnecessary to soak towels and instruments in antiseptic fluids. The rubber glove is a permanent innovation. So much is it esteemed that a prominent eastern hospital, finding after 587 hernial operations, 15 cases of suppuration, passed a resolution requiring all operators to wear sterilized rubber gloves when operating, in order to eliminate even this small number of unfavorable cases. This notable innovation is the only exception to simplicity in technic. In all other directions the tendency has been to use less and less paraphernalia in the operating-room and to rigidly limit the number of separate chances for contamination, offered by assistants.

In regard to the cleansing of the hands, I cannot do better than quote Eastman of Indianapolis, Wm. Pryor of New York and others, whose statements coincide entirely with my own experience:

"The greatest objection to any chemical sterilization of the hands and field of operation lies in the probable neglect of that greater virtue which lies in soft water, soft soap and softened elbow grease by much trituration of microbes. Cleaning nails, five minutes of scrubbing; cleaning nails again, five minutes' more scrubbing; then a teaspoonful of powdered chlorid of lime, until the heat of the lime begins to lessen; then sal soda until the hands are cooled; then immersing in alcohol. I have lost faith in the permanganate and oxalic acid. It leaves an acid on the hands last, the lime and soda an alkali last, and the hands that are in the abdomen every day and several times a day will tolerate the lime and soda, whereas the potash and oxalic acid have proven, in my work, very hard upon the skin; and, further, bacteriologic investigation by able eastern surgeons, as well as in our own laboratory, has shown a decided preference for the free chlorin produced by lime and soda."[1]

Before closing this report, I wish to speak of some of the surgical procedures that have been to some extent abandoned.

Foremost among them stands the spaying of women—the removal of the ovaries for pelvic pain or because of disease of other structures. The rules of radical destruction that apply to an inflammed appendix do not apply at all to the case of female ovary. Its functions are vital to the welfare, physical and mental, of the woman, and are kept up long after grave changes occur in the connective-tissue portion of its structure. It has been settled that it is better left in situ, even after extensive plastic operations and after resection or removal of the tubes. The appendix is a useless appendage—the ovary a potent and active organ. That its exact manner of influence is not known does not render that influence less powerful upon the physical and mental welfare of the patient. The protest against the wholesale removal of these organs long ago came from the better gynecologists, was echoed by the attentive practitioner of general medicine and now comes from the laity, who see the baneful consequences. While there are still operators so blind to the light of modern pathology, so intent upon "doing something" and that something an easy one, as to perform ovariotomy for pelvic pain in young women, these are rightly denounced as little short of criminal in their disregard of modern views and the lessons of experience so well taught, and at such a bitter cost, by the records of the past decade.

Another operation practically abandoned is that of trephining and craniectomy for epilepsy and idiocy. The results have been so poor, so meager, so bare of permanent good as to leave us but little choice in the matter—operation should not be advised. These cases belong to the asylum, to the man who can educate the few remaining nerve-cells, who can conserve the little remaining nervous energy and make of these patients useful things—automatons it may be, but self-sustaining and often more. To operate upon these is bad; to exact money for it seems worse. There are indeed a few exceptions to this rule—a very few. The greater part of these cases lie out of the sphere of the surgeon.

It is a pleasure to turn from this picture to the positive grounds fixed by the experience of the year in appendicitis. There is no recession of the surgeon on this line. Operation is imperative, is the only cure, and the earlier done the more certain are the results. Again I would say, as I have said in the past, and as many and better surgeons have said: The contraindications for operation are only a patient too weak or too shocked to bear operation and an operator incapable of doing it. In orthopedic surgery, too, the year has seen great things. Improved methods of treating bone disease; sharper lines of distinction between tubercular and other forms of bone necrosis; improved orthopedic appliances and a broader field of usefulness for the surgeon who would relieve the crippled and the deformed. The conscientious surgeon has reason to be proud of his art, to believe in himself and in the future of his profession.

[1] Eastman: West. Med. Review, Jan. 15, 1898, p. 6.

PROFESSIONAL SECRECY.

ITS LEGAL ASPECTS.

BY WILLIAM C. TAIT, LL.B.,
SAN FRANCISCO.

The ethics as well as the universal custom of the medical profession protect the secrets of the patient from disclosure; the confidence which the relation of physician and surgeon inspires is seldom betrayed. The law, nevertheless, frequently unseals the lips of the physician, and compels him to divulge information which, but for the voice of authority, might never have been disclosed. In the absence of express statutory prohibition, the physician or surgeon may be either permitted or compelled, against the objection of his patient, to testify as to any information concerning the latter's physical or mental condition acquired in a professional capacity, regardless of the nature of the information or the feelings of the patient, for the common law recognized no distinction between professional and ordinary information, at least as far as physician and patient were concerned. Under that system the patient did not enjoy the privileges of the client. The secrets of the latter were sacred and inviolable. If the same protection was not extended to the patient the reason may perhaps be found in the fact that until the last and perhaps the present century, medicine can hardly be spoken of as a profession. The books speak of "physic," and the term is still found upon some of our statute books. The physician shared the fate of the ordinary witness. Neither public policy, the interests of society, nor the confidential character of the information were, to the minds of judges, sufficient inducement to warrant any distinction between professional and non-professional communications. Either plaintiff or defendant might drag from the unwilling physician evidence seldom divulged except to physician or priest. But for the protecting seal of modern statutes, the physician might be compelled to disgrace his patient; it would not be safe to consult a physician. From time immemorial the law, both written and unwritten has closed the mouth of the attorney as to the secrets of his client.

But it did not occur to the lawmaker until a comparatively recent period that the reasons for protecting the client applied with equal, if not greater, force to the patient. How much better is the intimate life of the individual known to the physician than to the attorney. How much does the strength of the domestic tie, the happiness of the individual, the welfare of society, depend upon the silence of the physician. At the present day the statutes of all our states provide substantially that a licensed physician or surgeon cannot be examined as to any information acquired in attending his patient, which was necessary to enable him to prescribe or act for the patient.

These statutes, of which the language is plain and explicit enough, have nevertheless been variously construed. In some jurisdictions they have been interpreted literally and strictly; in others the spirit rather than the letter has been followed. Many interesting questions have arisen, and we propose in the course of this paper to review the most interesting.

First, as to what is to the judicial mind the purpose of the statutes, we will quote the language of Chief Justice Ruger of New York: "To inspire confidence between patient and physician; to enable the latter to prescribe for and advise the former most advantageously, and remove from the patient's mind any fear that he may be exposed to civil or criminal prosecution, or shame and disgrace, by reason of any disclosures thus made."—McKinney vs. Grand St. R., 104 N. Y., 352.

The opinion of the revisers of the New York Code is less complimentary to the profession: "To remove all temptation from the physician during the struggle between legal duty on the one hand, and professional honor on the other. The latter, aided by a strong sense of the injustice and inhumanity of the rule, will in most cases furnish a temptation to the perversion or concealment of the truth, too strong for human resistance."

What do the statutes mean by information? Frequent attempts have been made by ingenious counsel to have the courts confine the rule to the confidential communications of the patient, but so narrow a construction of the broad term "information" has never been countenanced by the courts. On the contrary, the courts have interpreted the term to mean not only communications received from the lips of the patient, but all such knowledge as may be acquired from observation of his appearance and symptoms, for as the New York Court of Appeals once expressed it (Edington vs. Ins. Co. 67 N. Y., 185): "Even if the patient could not speak, or his mental powers were so affected that he could not accurately state the nature of his disease, the astute medical observer would readily comprehend his condition. Information thus acquired is within the meaning of the statute."

Nor can the rule be confined to information of any particular character; the fact that the particular information would in no way injure or reflect upon the patient makes no difference. The statute is in this respect at least absolutely prohibitive. It applies to information of every kind and nature acquired professionally and necessary to enable the physician to prescribe or act. It includes measles as well as gonorrhea. It is so strict that when the physician is compelled to sue for his fees he is not permitted to testify to anything beyond the fact that he had treated the patient, and in the course of his employment had made a certain number of visits. Nor would he be permitted to state that he had performed a surgical operation of a particular nature, so long as the patient objected. A consulting physician or surgeon is equally within the rule. He cannot prove the nature of his services by his books. As it is practically impossible to determine the value of medical services without at least a general account of the condition of the patient, and the nature of the treatment, the physician is, financially speaking, at the mercy of his patient, unless he is able to prove the necessary facts by the testimony of a nurse.

During the trial of a recent suit of a physician to recover the value of his services the writer endeavored to solve the dilemma by calling the defendant and patient to the stand. The court, however, refused to compel the witness to disclose the information sought to be elicited, holding that the physician could not be permitted to prove by the patient what the law forbade the physician to disclose. As far as the decisions go, there is no authority one way or the other. The statute only applies to the physician. Still, to permit the physician to prove his case by the patient would be a clear violation of the spirit of the statute, which was designed to protect the patient. It may be said *en passant* that the duty of the physician to keep secret professional information amounts to an implied contract, and that a suit for damages will lie for a breach of the contraact, in case he divulges it without the patient's consent.

A distinction must, of course, be made between professional and other information. In order that the rule may apply, it is necessary: 1, that the relation of physician and patient should exist between the parties: 2, the information must be such as is necessary to enable the physician to prescribe and act. Without these prerequisites the information, although it be of a medical character, is not privileged.

Statutes and city ordinances regulating the actions of boards of health generally require the filing of a certificate by the attending physician as to the cause of death. But it has been held that such police regulations do not make the certificates public records in the sense that they are evidence between private parties of the facts recorded. In the case of Buffalo Loan & Trust Co., vs. Knights Templars, etc., 126 N. Y., 450, decided in 1891, a policy of insurance obligated the company to pay the insurance within sixty days after the notice and satisfactory proof of the death of the insured, without requiring the cause of death to be communicated. The guardian of the insured, however, furnished the company, as part of the proof of death, the certificate of the attending physician of the insured, to the effect that his death was from a cause which would have released the company from liability. Upon the trial of the case the court excluded both the certificate of the physician and the records of the board of health. One of the grounds upon which the court rejected the certificate was that the guardian had no right to waive the statutory privilege of the deceased. In this case the policy did not require the cause of death to be stated. The same thing might well happen to an executor, or administrator, or to the beneficiary of the policy; unless they were allowed to waive the privilege of the deceased, the company could not be compelled to pay the insurance. Under the law of New York, as it existed prior to 1893, when the statute in question was amended, such would have been the result, as the personal representatives of the deceased patient were not permitted to waive the statutory privilege for him.

The statutes should not be understood to mean that the physician may refuse to be sworn in a judicial action or proceeding, or that he is justified under all circumstances in refusing to disclose professional informa-

tion after having been sworn. The statute is intended for the protection of the patient, and he may waive it if he sees fit to do so. If the physician were permitted to maintain absolute silence, the patient might suffer irreparable damage. The latter may, of course, remove the ban of secrecy; the moment he does so the information is no longer privileged, and the physician may be compelled to divulge it. The success of much litigation depends largely upon the testimony of attending and consulting physicians, and they are frequently called into court by their patients. The whole truth, the whole history of the case, and all the physician knows concerning the physical condition of his patient, are seldom disclosed upon an examination in chief. Naturally only such information as is beneficial to the patient's side of the case is brought out. When, however, the adverse party, by means of a searching cross-examination, attempts to elicit further information, the history of litigation shows a tendency on the part of the patient to invoke the statute, to object strenuously to the introduction of further testimony on the part of the physician the moment it bids fair to become unfavorable to his case. This is usually the case in damage suits for personal injuries. It has also happened more than once in malpractice cases that, after having testified, together with the various members of his family, as to the secrets of the sick-room, the plaintiff has claimed the protection of the statute the very moment the defendant opened his mouth in self-defense. But, as Chief Justice Ruger of New York has said: "The rule cannot be used both as a sword and as a shield, to waive when it inures to his advantage and wield when it does not. Once divulged in legal procedings, it cannot be again hidden or concealed." (McKinney vs. Grand St. R.) The principle enunciated by the chief justice is well illustrated by the Indiana case of Lane vs. Boicourt, 128 Ind., 420, in which the plaintiff claimed that the defendant, a physician, failed to give his wife proper attendance during parturition, resulting in the lacerating and rupture of the muscles of the genital organs, and that he allowed five days to elapse before attempting to bring the parts together. The plaintiff, his wife and wife's mother, all testified to all that was done by the physician. But when the defendant called the consulting physician to the witness stand and attempted to prove by him the falsity of the plaintiff's testimony the latter claimed the production of the statute. The court very properly admitted the testimony, holding that the patient had waived the statutory rule and that "nothing was privileged, as all had been published." The court, in the course of its decision, says: "If a patient makes public in a court of justice the occurrences of the sick-room for the purpose of obtaining a judgment against his physician, he cannot shut out the physician himself, or any other present at the time. By this voluntary act he breaks down the barriers, and the professional duty of secrecy ceases. It would be monstrous if the patient himself might detail all that occurred and yet compel the physician to remain silent."

Whether by waiving the privilege as to one physician the patient thereby waives it as to others has been variously decided by the courts. Upon both principle and reason, it would seem that by waiving it as to one he waives it as to all. Sometimes the question as to whether or not the privilege has been waived by the patient is a very nice one, as in the case of Venzke vs. Venzke, 94 Cal., 225, in which the wife charged her husband with cruelty in having communicated to her a venereal disease (gonorrhea). Dr. Rueda testified that he had treated her for that disease. The defendant admitted that he had had the disease, and that he had consulted Dr. Reuda in regard to it, and did not deny that he had advised his wife to consult the doctor, but said that he had taken it from her. When, however, the wife's attorney asked what he knew about the defendant's case, defendant claimed his privilege, and Dr. Reuda was not allowed to testify.

Did the admission of the defendant that he had had the disease warrant the assumption that he had, by disclosing and publishing the secret himself, waived the statutory privilege. The judge who tried the case thought otherwise, and but for his ruling the plaintiff might have been permitted to show by the physician that he had given the disease to his wife, rather than taken it from her. If Chief Justice Ruger's declaration is good law, and it seems to be, then the testimony should have been admitted.

The death of the patient does not release the physician from his obligation of secrecy. Can the patient's executor or administrator release him from this obligation? Do they succeed to his rights to waive the legal privilege? The courts are at variance on this point. In some jurisdictions, notably New York and California, the privilege is a personal one, and no one but the patient can waive it—not even his executor or administrator. The courts of New York have said that any other rule "would permit the living to impair the fame and disgrace the memory of the dead, by dragging into the light communications and disclosures made under the seal of the statutes." Such a strict and literal construction of the statute is often detrimental to the patient's estate. The case of Harrison vs. Sutter St. R. R. Co., 116 Cal., 156, is a good illustration of this. There the administrators of the deceased attempted to prove by the latter's attending physicians that the injuries complained of caused his death. The court refused to allow the physicians to testify. Such a construction becomes particularly harsh and detrimental, when the validity of the patient's will is in question, for in such a case the rule applies to the proponents as well as to the contestants. In spite of these hardships, the courts of New York for years favored the strict construction, and refused to allow the patient's personal representatives to waive the rule, thus considering the personal rights of the deceased as paramount to the property rights of his heirs. Finally, in 1893, the legislature of that state relaxed the rule so as to permit the latter to waive it except as to "confidential communications and such facts as would tend to disgrace the memory of the patient." Code C. P., sec. 836.

The following case is a still better illustration of the hardship of the literal interpretation:

A policy of life insurance provided that the policy should be void if the insured should commit suicide. He hanged himself, and mainly upon that ground the company defended the action brought by the executor of the deceased. The plaintiff gave evidence that the insured hanged himself while insane. In the course of the trial the plaintiff called a physician who had known the deceased for a long time, and who attended him professionally a short time before his death, and asked the physician how he found him. The defense objected on the ground that the information was a privileged communication and prohibited by statute, and that the privilege of the deceased could not be waived by his executor. The trial court overruled the objection; the physician was permitted to testify, and gave important evidence as to the mental and physical condition of the insured at that time and subsequently. The jury

found for the plaintiff. On appeal, the court reversed the verdict on account of the error of the trial judge in admitting the testimony of the physician, holding that "the purpose of the law would be thwarted and the policy intended to be promoted thereby would be defeated, if death removed the seal of secrecy from the communications and disclosures which a patient might make to his physician, or a client to his attorney, or a penitent to his priest. Whenever the evidence comes within the purview of the statutes it is absolutely prohibited, and may be objected to by any one unless it be waived by the person for whose benefit and protection the statutes were enacted. After one has gone to his grave the living are not permitted to impair his fame and disgrace his memory by dragging to the light communications and declarations made under the seal of the statutes. An executor or administrator does not represent the deceased for the purpose of making such a waiver. He represents him simply in respect to rights of property and not in reference to those rights which pertain to the person and character of the testator." Westover vs. Ins. Co., 99 N. Y., 56, decided in 1885.

It is difficult to conceive how the testimony of the physician in the case just cited either "impaired the fame or disgraced the memory" of the deceased. On the contrary it vindicated his memory from the disgrace of an apparent suicide.

Yet it cannot be said that the court erred in its interpretation and application of the statute. Its language was plain and explicit; it was absolute and unambiguous in terms; it provided for no exceptions.

The courts of Indiana, Michigan and Missouri, under a similar statute, allow the personal representatives of the deceased patient to waive the privilege. In California and in some other states, the New York precedents are followed, and the statute strictly construed. In California, however, the statute is, by its express terms, confined to civil actions. In that state the following interesting case arose:

The defendant, a physician, was charged with the murder of a woman, and found guilty and sentenced to imprisonment in the state prison for a term of twenty-five years. The theory of the prosecution was that the deceased was pregnant and went to the defendant to have him procure for her a miscarriage, and that the defendant by some unlawful means did procure a miscarriage, thereby causing her death.

The theory of the defense, on the other hand, was that the miscarriage was effected by some one else before the deceased went to the house of the defendant, and that he, as a physician, received her there, and did all he could to save her life. To sustain this theory, the defendant called as a witness Dr. Johnson, who was willing to testify. No objection was made by the prosecution. The court, however (Judge Wallace), of its own motion, refused to allow the Doctor to be examined. For this error of the trial judge, the supreme court set aside the verdict, and granted the defendant a new trial.—People vs. West, 106 Cal., 89.

In this case the testimony was clearly admissible, for the reason that the statute of California applies only to civil actions. Such a statutory distinction between civil and criminal actions is peculiar to California. It is not found elsewhere. Nevertheless, there is considerable authority for the assertion that the rule does not apply to criminal cases. Thus, in New York, under a statute which provided that "a person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity"—we cite this particular case because the New York statutory provision has been incorporated bodily into the Codes of most of our states—the court of appeals held in a poisoning case that the physician who had attended the victim at the request of the prisoner, and had examined him and prescribed for him could be allowed to testify for the people, as against the objection of the prisoner, the latter's objection being that it was prohibited by statute. The court, after asserting that the object of the statute was "to place the information of the physician obtained from the patient in a professional way substantially on the same footing with the information obtained by an attorney professionally of his client's affair," saw fit to violate the plain language of the statute, by making a distinction between civil and criminal actions, alleging as a reason for such an arbitrary distinction that, if strictly construed, it would be extremely difficult, if not impossible, in most cases of poisoning to convict the murderer. "The statute," the court said, "was intended to protect the patient and not to shield one who is charged with his murder."—People vs. Pierson, 79 N. Y.

In other words, in order to convict the defendant, who is perhaps an innocent man, and who may be acquitted by the jury of the crime charged, it is proper and admissible to compel the physician of the victim to break the rule of professional secrecy, and to divulge information which may "impair the fame and disgrace the memory" of the patient!

Is it not better that the guilty should escape, if they cannot be convicted except by breaking down the barriers which the law has erected for the protection of the confidential relation of physician and patient? The decision in the Pierson case was written by Judge Earl in 1880. In 1886 the same judge, in passing upon the same statute, refused to permit the executors of a deceased patient to waive it, and said "that so important an exception should be engrafted upon the statute by the legislature, and not by the courts; that if the statute excludes the most reliable and vital evidence which is absolutely needed for the ends of justice, particularly in testamentary cases, the remedy is with the legislature, not with the courts. There is no more reason for allowing the secret ailments of a patient to be brought to light in a contest over his will than there is for exposing them in any other case where they become the legitimate subject of inquiry." This was the language of the court in a civil case (Renihan vs. Dennin, 103, N. Y., 593). Is it not equally applicable to a criminal case?

In the Edington case, and in the case of Grattan vs. Metropolitan Life Ins. Co., 80 N. Y., 281, Judge Earl thought the statute should be so construed as only to prohibit the disclosure by a physician of any information of a confidential nature, but was overruled by his associates. In the Pierson case, he thought there was nothing of a confidential nature in anything the physician learned, or which was disclosed to him; the symptoms and conditions were such as might be expected to be present in a case of arsenical poisoning.

The legislature of New York, in amending the statute in 1893, adopted his views as far as personal representatives were concerned. It did not see fit, however, to engraft a further exception by confining it to civil cases, as had been done in California.

The question is more squarely presented by the case of People vs. Brewer, 53 Hun., 217, in which the defendant was charged with aiding and assisting in procuring an abortion. The physician was called on the trial as a

witness for the prosecution, and was allowed, against the objection of the defendant, to testify that the following conversation took place between himself and the defendant: The defendant said: "For God's sake, hurry up; my wife has a fit, or fainted, or something. I don't know what." He said: "Probably you would like to know what the difficulty is before you leave the office." I said: "Yes, it might be a help to me, because I might need something that I would not take with me." He said: "This lady down to the house I am living with I am not married to, but I expect to get a divorce from my wife and get married. This lady is about three months gone in the family way, and she introduced a catheter with a wire in her womb, and after she had introduced it far enough to hurt her, I blew in it." I said: "What did you blow in it for?" He said: "I done it before, and it worked all right."

The jury found the defendant guilty. The verdict was reversed on appeal, on account of the error in allowing the introduction of the physician's testimony. The court refused to apply to this case the principle of the Pierson case, and said: "The present case is widely different. The defendant employed the physician to save Mrs. Brower's life. His alarm and anxiety were great. He knew what had taken place, and suspected that it was the cause of her sudden prostration, and felt that the physician ought to know it, and to govern his treatment accordingly. The physician did want to know. In this critical moment, with the sole purpose of saving the woman's life, he disclosed the secret to the physician to enable him to act rightly. To have withheld the disclosure would have made the defendant a consenting party to the woman's death. We have no doubt that the statute, both in letter and spirit, protects the confidence thus reposed in the physician, and forbids him to betray it."

Professional intercourse between attorney and client is protected by profound secrecy. The privilege is that of the client, and the prohibition as to the attorney is absolute. The law never unseals his lips in the interests of justice, not even when the client is charged with a crime. The client cannot be convicted out of the mouth of his attorney, any more than can the guilt of the penitent be proved by the testimony of the priest. In the case of the patient the statute may sometimes block the wheels of justice, but as Chief Justice Bigelow of Nevada said in People vs. Depoister, 21 Nev., 107: "It is better that such testimony should be lost, than that the confidence which ought to exist between priest and penitent, lawyer and client, and physician and patient, should be destroyed by the knowledge that they may be compelled to divulge the information so obtained from those who have placed trust in them."

MEDICINE.*

ITS PROGRESS, PROBLEMS, AND PROSPECTS.

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It has been the request of the committee of arrangements that the president of this Society deliver an address on "The Progress, Problems, and Prospects in Medicine," at this our fiftieth anniversity. With due appreciation, we accept the honor conferred and bespeak your kind attention and indulgence. The subject is so broad and comprehensive that we can not do more than briefly consider the course of medical evolution, and some of the present medical problems and prospects. In the dim past so many theories, hypotheses and opinions emanated from such a few facts that medical systems flourish in abundance. It would be impossible, in the brief time at our disposal, to describe the medical systems and dogmas of the past, so we will only briefly allude to these and pass on to a brief sketch of the progress in some of the numerous branches of medical science for the last fifty years. The last decade has been a period of advancement without parallel in the world's history. This progress has revolutionized the principles and practice of medicine, hence it would require much patient research and philosophic insight to successfully trace the evolution of medicine during this period. It would require the pen of a medical genius to fittingly portray the good accomplished in preventing suffering and saving life. It is to be hoped, for the honor and glory of medicine, that the time is not far distant when some worthy medical historian will fittingly perform this task.

Throughout the ages medical evolution has kept pace with intellectual development. An infant age bred fear, bigotry, superstition and great credulity. Diseases arose from unseen and mysterious causes, hence remedies were equally mysterious, and charms, sorceries, propitiatory prayers, sacrifices and gifts were offered to appease the wrath of the gods, and to secure the assistance of some health-giving deity. During the age of barbarism, medicine was a species of sorcery, and excited fear in the popular mind. During the age of superstition, medicine was the "mystery of the alchemist," and excited feelings of wonder. During the ecclesiastical age medicine became oracular, and it was accepted with absolute credulity. During the metaphysical age medicine was speculative, and was accepted dogmatically. During the age of experience and superficial observation medicine became empirical, and specifics were demanded. During the present scientific age, fear, sorcery, alchemy, mysticism, dogmatism, empiricism, etc., have vanished, and the scientific spirit and methods have taken their place. For many centuries, owing to bigotry, superstition and the spirit of speculation, there was only progressive accumulation, and but little scientific advance in medicine. There were no laws regulating the practice of medicine, and even as late as the Middle Ages, the regular profession was composed of a mongrel horde of barbers, bath-keepers, bone-setters, butchers, calf-doctors, crystallomancers, druggists, exorcists, midwives, priests, lithotomists, rat-catchers, shepherds, hermits, magicians, jugglers, gypsies and numerous other charlatans, mountebanks and quacks. General practice was largely in the hands of the priesthood, and surgery in the hands of social outcasts, until the sixteenth century, when there was a separation of the priesthood from medicine.

At this time there was a recognition of the importance of surgery by anatomists and clergy, and a drawing together of medicine and surgery. The ecclesiastical doctors were prone to speculation, and believed in the efficacy of charms and relics, and in the intervention of the martyrs and saints. Among the causes of disease they included demons, witches and ghosts, "the fall of man," "the faculty of appetite seated in the spleen or in the stomach," "the poisoning of the vital spirits," etc. They despised surgery, and regarded operations as beneath their dignity. In the thirteenth century surgical operations were forbidden, dissection was regarded as a sacrilege, and books on medicine were banished from the monasteries. The works of Arnold de Villeneuve, Andreas Vesalius and others "were condemned by the inqui-

*Read before the Mercer County (N.J.) Medical Society, at its Fiftieth Anniversary, May 23, 1898, and subsequently revised.

sition, because they commended experiments rather than mere speculations." They were thought to be atheists and heretics, and were persecuted by the church, which later ridiculed Boyer, Jenner, Simpson and many others, because they feared them and the effects of their discoveries.

This early persecution by the church is not to be wondered at, if, as Park tells us, many of the clergy "were mere lascivious gluttons, and considered even washing unchristian." They denounced all observations and experimentations, and believed that "wisdom, like the grace of God, was obtainable only by fasting, supplication and poverty." All truth was to be revealed by their inner consciousness; they imagined, they speculated, they dogmatized, and, like Pilate's wife, pronounced judgment from their dreams.

The period previous to the sixteenth century was one of cabalistic theories, of mysticism and occultism, when gods, devils, and stars were supposed to exercise an influence over the conditions and affairs of men. During the Middle Ages occult philosophy consisted of theosophy, magic, astrology and alchemy. At the beginning of the seventeenth century, the natural sciences began to flourish, and observation and experimentation added many new facts to human knowledge. Modern realism, or inductive philosophy, exact methods and originality, were beginning to take effect, and were greatly advanced by such men as Sydenham, Bacon and others.

A new era in medical science commenced when the inductive system of philosophy passed into medicine. Previous to the seventeenth century they philosophized and dogmatized about medicine, and the humble labors of research were held in contempt. Dogmatism was the result of self-confident ignorance, and flourished when the principles underlying the treatment of disease were merely speculative. As we become more thoughtful and rational, dogmatism declines. It is now regarded as an act of supererogation and presumption on the part of any one to assume an autocratic dogmatism and express ex-cathedra opinions on any subject until the evidence is first carefully examined and set forth as a basis of belief. The reason is no longer in subjection to the imagination, and we no longer seek scientific truths by introspection. Men are being taught to leave their minds free to receive the impressions of truth, to interrogate nature by observation and experiment, and inductive reasoning, and to prove all things, and hold nothing for true until the grounds of certitude have been ascertained. Individual experience, deductive reasoning, and many theoretical beliefs are being eliminated by inductive and scientific methods. Sir Astley Cooper's motto: "First observe, and then think," is a good one. Observation and experimentation now precede conclusions, and have overthrown the hypotheses which were sustained only by speculation. Hypotheses must be proven, and beliefs must be founded on evidence and supported by facts. There must be a cause for every effect, and a reason for every belief. Each one must use his own eyes, and must think and observe for himself. The *ipse dixit* or ex-cathedra opinions of the great masters are no longer blindly accepted. We cannot rely upon dogmas, or the inherited opinions and beliefs, which rest solely on authority and not on their own intrinsic merits. We must accept "truth for authority, not authority for truth." Dogmatic authority steeped "in port and prejudice" made of medicine a black art, and shrouded her in mystery.

For long years medicine occupied the realm of mystery, and was accepted on faith. A sanctified faith, that has a spiritual and intellectual foundation, is commendable, but a blind, unquestioning, superstitious faith, founded on great credulity and ignorance, imprisons the reason and leads not toward knowledge, wisdom or truth. It is said that "a judicious distrust and a wise skepticism are the sinews of the understanding." The great Sydenham was called "a man of many doubts." He was an intelligent and original thinker and investigator, and was loyal to truth rather than to authority. This is the scientific spirit, and has made the present an era of modern science. If we are to have scientists in medicine, the laboratory, hospital, dispensary and clinic must continue to furnish experimental and practical information. True scientific methods are being developed by numerous inquiries, keen experimentation and close research. Medicine is now an inductive as well as a deductive science. The scientific methods now predominate, and special systems with their "isms" and "pathies," are fast disappearing. A broader intelligence recognizes the solid foundation on which medicine rests—a foundation that is laid by research, observation, and experimentation, the same as physics, chemistry, or any other branch of science. Regular, or rational medicine, has received it greatest impulse and development through scientific methods.

Although a broader intelligence demands of medicine observation, positive knowledge, absolute proof, or the scientific spirit and methods, nevertheless there are many who can not distinguish between science and pseudo-science. There are still many pretentious theories that are built on delusions in physics and philosophy. The human mind develops slowly. The faith and belief of the ignorant and credulous "rise by means of heated air—the fevered breath of enthusiastic ignorance." To all such, medicine is "the grand idol of human credulity," and their faith and belief become a port free of entry to all unsupported individual convictions. Over this port of entry is written the motto "*Credo quia impossible est*"—I believe this because it is impossible. Christian science, osteopathy, and all the other "pathies" and "isms," find easy entry and shelter here. Human ignorance and credulity have ever been the fruitful soil from which have germinated and flourished many pretentious theories. Scientific medicine will never be fully appreciated until the laity more fully understand the scientific tendencies and spirit of the age. But, thanks to the writings of Darwin, Spencer, Haeckel, Wallace, Huxley, Tyndall and others, people are being taught scientific methods of thought, and the importance of investigation by the senses. The pure science of nature, founded upon scientific investigation, is the most influential philosophic doctrine of this century. Of course, medical thought, as well as the popular mind, has been largely guided by these philosophic doctrines. All advance in physics, chemistry, natural history, botany, zoölogy, comparative anatomy, etc., have advanced the science of medicine. Medicine has ever appreciated and profited by the advance in all the various departments of science, still she has not been entirely receptive. She has found it more blessed to give than to receive, and, during the last fifty years, she has given to science many of the grandest ideas and truths of the century. These we will consider later.

When this Society was founded, May 23, 1848, medicine was an art rather than a science. The *post hoc ergo propter hoc* error which at this time received so much attention, has been discarded through rational observation. We now have more knowledge of, and re-

spect for nature than formerly, and no longer attempt to make art superior to nature. Medical truths are now discovered by applying sound medical observation and judgment to the phenomena of life. Many complaints that were popularly believed to be due to meteoric influences and the appearance of comets or to the "visitations of God," and called by medical men "idiopathic," are now rightly assigned to their real cause. Increased knowledge in the nature and causation of disease has led to more effective treatment. We no longer delight in polypharmacy with its shot-gun prescriptions. It is said that Huxham gave messes to his patients containing more than four hundred ingredients. The empirics prescribed nostrums and panaceas for a name, but now empiricism has largely given way to rationalism and physiologic and pathologic investigation have led to rational therapeutics. The great advance in physical diagnosis, and in the knowledge of the physiologic action of drugs, has banished this pseudo-scientific audacity in the use of remedies. We now use extracts and active principles for a definite physiologic effect, rather than crude drugs and mysterious combinations. Our experimental and physiologic laboratories have greatly increased our knowledge of biology, organic chemistry and the physiologic action of drugs, and have given us the alkaloids—the active principles—and many new and useful remedial agents, which we now prescribe for their physiologic effects, and for this alone. The blind faith in many remedies and methods has disappeared. Calomel was formerly regarded as "the Samson of the materia medica," and bleeding was both a necessity and a virtue. It is said that, in one year—1833—there were "forty-one million, five hundred thousand leeches imported into France." Broussais is said to have used one hundred thousand leeches in his own hospital wards during one year, and Bouillard is said to have surpassed even this. When we consider the amount of blood extracted by the lance, and by cupping, in this country as well as in France, we must conclude that our forefathers were sanguinary heroes, heroic in their faith—a divine quality that is often misplaced. Our Puritan forefathers were martyrs to faith. They believed in the combination of theology and medicine, or the "angelical conjunction" as it was called. They placed great confidence in the medical skill of their spiritual authorities, and Cotton Mather, who believed in witchcraft, etc., "was regarded as an eminent authority on medical subjects." These theologicomedical experts wrote many pamphlets and works on medicine, which must have excited the risibilities of the saints. They believed most intensely in the efficacy of prayer, which they often practiced at the bedside of their patients. Such an act is commendable, but the humor of the situation dawns upon us only when we are informed that the results they sought, by their prayers, was, as they quaintly expressed it, to "give them a lift Heavenward." What would be thought of the doctor to-day who sought such therapeutic results? What sublime faith our forefathers must have had to trust those whose avowed purpose was to give them a lift Heavenward. How different is the faith of their degenerate sons, who do not have even such confidence in those whose avowed purpose it is to keep them out of the bottomless pit. How sublime also was their faith in the justness and generosity of God acting through human instrumentality, or by proxy. Dr. Stafford says: "No man can with a good conscience take a fee or reward before the party received benefit apparent, and then he is not to demand anything but what God shall put into the heart of the party to give him. And he is not to refuse anything that shall be given him, for it comes from God." *O tempora, O mores!* Such views could do nothing else than breed infidelity and atheism among doctors. But times have changed. The simple faith of childhood fades away as thought and knowledge develop. The primitive faith in medicine has been banished by scientific methods of observation and experimentation, which have caused more progress in medicine during the last fifty years than during all previous time.

Previous to 1848 nothing was known about bacteria, infection, immunity, antisepsis, asepsis, toxins, antitoxins, etc. Gynecology, dermatology and pathology were in their infancy, and bacteriology was unknown. But little was known about the diseases of the heart, lungs, liver and kidneys. Nervous diseases, and diseases of the nose, throat, eye and ear were comparatively unknown. There were no laboratories, no recitations, no graded course, no ward classes, and no text-books were required. The medical student had no actual contact with disease, but after six months of didactic lectures received his diploma, and went forth to kill or cure as the fates decreed. There were no boards of health, except the microbes and the buzzards; and hygiene, sanitation and preventive medicine were in their swaddling clothes. There were no microscopic or chemical examinations of the blood, or of the secretions and excretions. Dietetics, during the last half century, has been established upon a rational scientific foundation. Pediatrics, which date from *"de morbis puerorum,"* 260 B. C., received but little attention until quite recently. The first text-book of diseases of children that was published in this country was written in 1825, by Logan and Dewees. We had no journals treating of pediatrics until 1868, and there was not an exclusively pediatric society until 1888. There was not a hospital, in this country or England, for diseases of children until 1852. In 1854 a child's hospital was founded in New York, and in 1855 one in Philadelphia. These were the first established in America. There was no special chair in pediatrics in any of our medical colleges, until 1860, and this was filled by the distinguished Jacobi. The "humane sciences"—anthropology, psychology, criminology and sociology—have been formed and developed by the investigators in the field of neurology. The study of neurology has done much to explain the cause of degeneracy and the philosophy of reform. It has ameliorated the conditions in our schools, asylums, reformatories, and prisons. It has led to a better knowledge of self, to a better knowledge of the effects of heredity and environment, and to a more sympathetic and more humane treatment of the weak and erring. It has taught us the broad distinction between abnormality and immorality. It has dispelled many harsh and ascetic beliefs, and ameliorated many social conditions. It created such broad sympathies and altruistic sentiments that harsh and inhuman treatment of the degenerate classes no longer prevails. Only a few years ago the insane were supposed to be possessed with a devil, bewitched, or the victims of divine displeasure. They were regarded as heretics, witches, criminals. But the study of neurology, inductive inquiry, and physiologic research, has taught us that insanity, like all forms of degeneracy, is a disease to be treated, rather than a crime to be punished. Great has been the advance during the last fifty years. In 1848 there were about thirty medical colleges and 3500 students; now it is estimated that we have about 170 medical schools, 28,000 students,

and about 186,000 physicians. The libraries, medical journals, societies and scientific associations were few, now they are very numerous, almost universal.

With this broad and general consideration of the subject, which is merely superficial, we will now mention some of the more important discoveries and indicate their effect on general medicine. A short time previous to the organization of this Society, the first great discovery in medicine was made. Anesthesia, a term first suggested by Oliver Wendell Holmes, was at this time running the gauntlet. Holmes tells us that by means of an anesthesia "the fierce extremity of suffering has been steeped in the waters of oblivion, and the deepest furrows in the knotted brow of agony have been smoothed away forever." He, and many others, lauded this great discovery, but some of our ministerial brethren anathematized it as "a decoy of Satan—which will harden society, and rob God of the deep earnest cries which arise at the time of trouble for help." For a long time the clergy did not appreciate the moral and spiritual influences exerted by medicine, but at the present time they are our staunch friends and allies, and no longer fear the results of scientific investigation.

Sulphuric ether was first discovered in the thirteenth century. In 1540 it was called the sweet oil of vitriol, and in 1730 it was first called an ether. In 1796 Beddoes published a work on "Factitious Airs," in which he says that "Ether in pectoral catarrh gives almost immediate relief both to the oppression and pain in the chest," and further states that "after inhaling two spoonfuls he fell asleep." In 1839, in Pereira's well-known treatise on materia medica, the intoxicating and stupefying qualities of ether are mentioned and its exhilarating effects and its relief of colic and pain were well known. Nothing could better illustrate the unscientific methods of the age than this, and the great need of close observation and experimentation. With all this knowledge before him, it seems strange that Velpeau, in 1839, should write: "To escape pain in surgical operations is a chimera which we are not permitted to look for in our time." At this very time negroes on southern plantations were holding "ether frolics," and knew much about the anesthetic effect of ether. Ether and its blessings might have been obtained centuries before, had there been greater observation and experimentation. At present, with our laboratories for scientific research, medical truths do not slumber so long in the lap of forgetfulness.

On Oct. 16, 1846, occurred the first authentic and public exhibition of anesthesia during a surgical operation, although this was not the first time ether had been used for the purpose of producing insensibility to pain. In May, 1842, Crawford Long of Georgia removed from the neck of a patient a small tumor, while under ether, and without any pain. In 1844 Horace Wells, a dentist of Hartford, first demonstrated the painless extraction of teeth when under the effects of nitrous oxid gas. During this same year Dr. Marcy of Hartford performed a painless operation on a sailor, while under the influence of ether. In 1841 W. T. G. Morton entered the office of Horace Wells, as an assistant, and while there became impressed with the nature and usefulness of nitrous oxid gas. He saw in this a pecuniary reward, so he applied to Dr. C. P. Jackson of Hartford, a noted chemist, to ascertain the best method of manufacturing the nitrous oxid gas, for anesthetic use, and Dr. Jackson first suggested to him the use of ether for this purpose. On Sept. 30, 1846, Morton gave ether for the extraction of a tooth, and the operation proved painless. The next day he proceeded to have his supposed discovery patented. Then he called upon Warren, at the Massachusetts General Hospital, soliciting his co-operation, and on Oct. 16, 1846, he made his first public experiment with his so-called "lethon," which was simply ether disguised by aromatic oils. Warren succeeded in removing a tumor from the neck of a young man, and the operation was pronounced a great success. Had Morton possessed a scientific and philanthropic spirit instead of one of peculation and cupidity, he would never have disguised the ether or patented his supposed discovery, and sold office rights to dentists. The hospital was the pedestal that caused his borrowed light to shine abroad like a newly discovered sun. Morton, in attempting to find a market for his patent, first publicly proved to the world that ether was a safe anesthetic in surgical operations. Nevertheless, the Medical Society of Paris, in 1848, recognized the claim of Horace Wells as having been the first to apply the use of vapors or gases for painless surgical operations, and on Wells' monument in Hartford, is the following inscription, "Horace Wells, who discovered anæsthesia, November, 1844."

Chloroform was discovered in 1831, but was not introduced for anesthetic purposes until 1847, when Simpson used it in his obstetric work. Cocain was discovered by Niemann in 1860, and was first applied as a local anesthetic, or analgesic, in 1862, by Schroff. Karl Koller first demonstrated its use as an ocular analgesic, and reported the same in 1884, when it first came into general prominence. Since this time rhigolin or chlorid of ethyl, Schleich's infiltration method, eucain, holocain, aneson, orthoform, etc., have been used as analgesics, in minor surgery. Before anesthesia patients sometimes preferred death to the pain and agony of an operation, which frequently terminated in death from the depressing effects of simple shock and pain. Now there is no more pain, no more agony, and no more incautious haste on the part of the surgeon. Far more difficult and better operations can now be perfomed. Anesthesia was one of the grandest discoveries of all time, and the human race owes a debt of gratitude to the profession that has done so much toward the relief of suffering and the prolongation of life.

Another grand discovery that has no parallel in the history of medicine was the discovery of bacteriology and antisepsis. We will next, therefore, consider bacteriology, its history and development, its influence over etiology, pathology and the principles and practice of medicine, together with the results that have followed this discovery, such as the knowledge of infection, hygiene, preventive medicine, sanitation, boards of health, antisepsis, asepsis, serum therapy, immunization, etc. The germ theory of disease was anticipated by Terentius Varro, 115 B. C. He advised people to avoid marshy places which "breed certain minute animals, invisible to the eye, and which, carried by the winds, penetrate the mouth and nostrils, and promulgate obstinate diseases." It seems that nearly, if not every, great discovery was anticipated centuries before. For a century or more previous to the experiments of Pasteur, Tyndall, and others, scientists and naturalists believed in the spontaneous generation of life. They knew of the existence of micro-organisms, "monads" or "vibrions" as they were called, but they did not know that all life springs from pre-existing life. They did not know the life history of micro-organisms, or the part they play in nature or disease. Still there were a few early investigators who believed in the germ theory of disease.

In 1675 Leuwenhock described the "animalcules" in water, and in 1683 he discovered micro-organisms in the saliva, in the intestinal evacuments and elsewhere, and this led him to believe in the relation of micro-organisms to disease. He believed that all diseases and pathologic conditions were caused by organisms. In 1762 Plenciz declared that all infectious diseases were due to living substances capable of multiplying within the body, and of transmission through the air. He discovered animalculæ in all decomposing matter, and believed that decomposition was always due to organisms, and that each disease had a special germ. The times, unfortunately for posterity, were not ripe for such observations or theories—which at this time were regarded as due to an unbalanced mind. Ozanan, in 1820, refers to Plenciz' theories and calls them "absurd hypotheses." Robert Boyle, in the seventeenth century, believed that a knowledge of the cause of fermentation would explain the phenomena of fevers and other diseases. Many had vague notions about a *"contagium vivum,"* or minute organisms capable of spreading and reproducing themselves. In 1835 Bassi discovered the parasitic origin of silk-worm disease. In 1836 Schulze proved the presence of organisms in the air, and in 1837 Schwann found minute globular bodies, which he believed to be the cause of alcoholic fermentation, and later proved that there was nothing in the elements of air to cause fermentation, as heated or sterilized air would not produce fermentation in boiled substances. In 1843 Helmholtz confirmed Schwann's discovery. In 1839 Schönlein discovered that a parasitic fungus caused the contagious disease of the head, called favus. Vogel discovered the oidium albicans in 1840, and Gordsir the sarcina ventriculi in 1841.

In 1849 and 1850 the first and largest of the pathogenic organisms—the anthrax bacillus—was identified and described by Pollender and Devaine. So important was this discovery that it has been called the key-stone to the arch of bacteriology. Notwithstanding this discovery, and all previous observations, it was still generally believed that micro-organisms might arise *de novo*, or be generated spontaneously. Liebig thought that putrefaction was due "to the absence of oxygen" and disturbed "molecular arrangements." Schroder and Dusch, in 1854, proved that filtered air would not produce fermentation, and Schwann, Helmholtz and others, in 1848, knew that fermentation and putrefaction were intimately connected with the presence of organisms.

But it remained for Pasteur, in 1858, to scientifically explain the mysteries of fermentation and to disprove the theory of spontaneous generation. There were many previous experiments and observations that anticipated Pasteur's work, but with greater zeal, and with scientific methods of research, he did more than any other observer to popularize and give scientific form to the discoveries previously made. Tyndall and Cohn's observation on the micro-organisms in the air, their relation to fermentation and putrefaction, and the results of temperature on germ life, did much to banish the idea of spontaneous generation, and to create an earnest study of the relations of germs to disease. Pasteur, in 1858, showed that lactic, butyric, and acetic fermentation, and the fermentation of the impure tartrate of lime, were due to micro-organisms, and later affirmed that putrefaction is only a special case of fermentation. He investigated the diseases of silk-worms, the cause of splenic fever, etc., and showed that sheep and cows vaccinated with the attenuated bacilli of splenic fever were made immune. He first scientifically demonstrated that infection is a phenomenon of microbial parasitism, and first discovered the principle of vaccination, and proved that the pathogenic microbes could be so attenuated or weakened as to produce a mild disease and future immunity. Pasteur's experimental work was along the line of fermentation, infection, contagion, and vaccination. These, together with his discovery of the new treatment of hydrophobia, which is said to cure more than 99 per cent. of all cases, have made him a great benefactor to humanity. Pasteur undoubtedly laid the foundation for bacteriology, but many earnest workers aided in erecting the superstructure. Cohn classified and studied the forms of bacteria, which he regarded as constant. His classification and theories were later modified and enlarged by Lankester, Lister, Billroth, Klebs and many others, who added greatly to our knowledge of the morphology of the micro-organism. While these observations in morphology were being made other observers were doing much to establish the relation of micro-organisms to disease. Villemin, in 1865, first demonstrated the fact that tuberculosis is an infectious disease and could be transmitted by inoculation. Cohnheim, in 1877, confirmed these observations, and this led many to search for the bacillus. Baumgarten first discovered the bacillus, but Koch, in 1882, first fully established the identity of the organism, and made successful cultures. In 1866 Rindfleisch described "vibrios" that he found in infectious wounds, and Recklinghausen and Waldeyer record a similar discovery in pyemia. It must be borne in mind that micro-organisms were called by different names at different times. They were called "monads," "vibriones," "animalculæ," "infusoria," "schyzomycetes," microbes, etc. These micro-organisms were regarded as animals until 1853, when Perty demonstrated that they belonged to the vegetable kingdom. In 1881 Laveran discovered the plasmodium malariæ, and Ogstan and Rosenbaum discovered pyogenic organisms. Israel and Ponifick, in 1882, first discovered the parasite, or bacillus, of actinomycosis. During this same year Koch identified the micro-organisms of malignant edema, and Friedlander, in 1883, discovered the bacillus of pneumonia. Loeffler and Schultz discovered the specific germ of glanders—the bacillus malli—and in 1884 Koch discovered the specific organisms of Asiatic cholera. Nicolaier, in 1884, discovered the bacillus of tetanus, and recently the specific bacillus of yellow fever—the bacillus icteroides—has been discovered. Klein and others have also recently isolated a streptococcus that is regarded as the cause of scarlet fever. Eberth, Koch, Gaffky and others, demonstrated the fact that typhoid fever is due to a special micro-organism. In 1870 Klebs described how organisms in wounds enter the circulation, and later Oertel, Klebs, Eberth and others, established the constant presence of bacteria in diphtheritic deposits. Martin, in 1892, describes three forms of the Klebs-Loeffler bacillus—the long, medium, and short—and showed that one or more of these are found with the streptococcus and other germs, in every case of diphtheria. Much was done by Latour, Schwann, Pollender, Davaine, Henle, Oertel, Pasteur, Tyndall, Klebs, Lister, Koch, and other close observers, to firmly establish the relation of micro-organisms to disease.

(To be continued.)

NAPLES is planning for an international antituberculosis congress and a national exhibition of hygienic appliances next spring.

Correspondence.

A Philippine Evil.

PARIS, FRANCE, July 20, 1899.

To the Editor.—The lay as well as the medical public already recognizes that the torrid heat and drenching rains of a tropical climate are more to be dreaded by the American pacificator, than its hostile and treacherous mongrel population, but the non-professional community does not understand that which even the medical fraternity at home is slow to declare—a far greater evil than even these menaces the youthful soldiers, and through them, when they return, the people of our own land with whom they come in contact. Among the harpies, whose nests are in the East Indies and countries bordering the China Sea, there is none more ravenous and destructive than the lues venerea, whose victims are first the young and vigorous males of the race, and through them, those whom they infect, these remotely to empoison others.

No amount of religious instruction or moral suasion, except in a few instances, has been found effective in deterring the youth subjected to the allurements of the facile women of this part of the world. Themselves ignorant, indolent, careless, and unclean, as well as amatory, they become the ready propagators of venereal diseases, which, perhaps from climatic influences, here assume their most virulent form. The writer's own professional experience in these regions caused him to look for syphilis underlying almost every ailment, barring accidents alone, that came under his cognizance.

The British medical officers, from the earliest occupancy of the Indian peninsula, proclaimed this danger, and the medical authorities, year after year, pointed to the statistics, which, moreover, only incompletely exposed the extent of this terrible scourge. Finally, parliament passed the "Contagious Disease Acts," the beneficial effects of which were soon apparent throughout the military and naval service of Great Britain. Notwithstanding this, the cry that the government was fostering vice was raised by a set of narrow-minded religionists, which resulted in the repeal of these acts and the immediate increase and spread of venereal diseases and their sequelæ in the British army and home. Japan and the French Asiatic colonies alone examine their public women and sequester those found diseased, in Lock hospitals. Among the Chinese, Malayan and hybrid Spanish population, with whom our troops come in contact, these diseases run rife. When passion impels, principles are forgotten, precepts are ignored, and prudence ought to be inculcated. The examination of women who ply the trade of prostitution can be conducted without even a quasi-recognition of it, at least not greater than its tolerance by the authorities, which is of itself a tantamount recognition, since to assume its non-existence is only a hypocritical pretense of ignorance.

Unfortunately, the reckless exposure of the willful, sinful soldier and sailor does not end with their own infection. With equal recklessness and unconcern, they either deliberately communicate their maladies under the traditional belief that they can thereby rid themselves of them, or unconsciously infect innocent women and children, or even men, who use the drinking vessels, table appointments, toilet articles, or utensils which they have soiled by the touch of their lips or hands. The most pernicious case of syphilis I have seen in recent years occurred in an innocent person, who used a comb belonging to an unsuspected syphilitic, the victim not recognizing the nature of the disease until it had progressed so far that cutaneous syphilides were developed.

It is of moment, therefore, to sanitary and medical men to recognize the danger from the importation of those same venereal maladies, which are invaliding an immense proportion of the British Indian troops. If it be impracticable to require the compulsory examination of enlisted men, prior to their complaint of disability, it is, nevertheless, proper and necessary to institute such examinations, before any man or officer is mustered out of service on return home. Precise figures can not be given of the proportion of such troops so infected, but the number is far greater than supposed, and as every single case becomes a focus of dissemination, its discovery and suppression are of far-reaching sanitary importance. Chaplains may exhort fervently and eloquently—though in fact they avoid the subject—without moving the sinner, who conceals his sinning, but the medical officer who positively says "Thou art the man," serves the cause of God and righteousness to far better effect by secluding the—it may be innocent—victim from possible, if not certain, contamination, or other innocents among women and children. If syphilis is comparatively infrequent in late years, in the United States, it is because the keepers of brothels recognize the pecuniary advantage of protecting their inmates by instructing them in preliminary inspection of their visitors, and by placing them at once under medical care if, despite their crude precautions, they become infected. There is no such safeguard among the loose females of the Philippines and adjacent groups, whose animal instincts are under no restraint, and who, themselves often in the first place victims of unscrupulous beastly men, scatter their disease far and wide. Were sinners the only sufferers, some reason might be held by those whose own righteousness entitles them to stone these profligates, but since we know that the mucous patch and eczematous vesicle are no respectors of persons, and that the sure and guileless may be innocently defiled, it becomes a solemn duty to extinguish the spark which may lead to such ruin. Hence, it is to be hoped that the surgeons-general of the army and navy will require satisfactory evidence of absence of venereal disease before authorizing the discharge of any soldier, sailor and marine from the national services. The economic consideration concerned in the protection of the pension list from future applications actually due to antecedent venereal disease is an additional reason for this rigid scrutiny.

A. L. G.

Ventrosuspension of Uterus.

HILLSBORO, N. D., Aug. 8, 1899.

To the Editor.—In connection with the recommendation of Dr. J. Wesley Bovee, to utilize a bundle of the rectus for ventrosuspension of the uterus, I wish to draw your attention to the successful performance and result of this idea in a case operated on by me in 1896, reported to the last meeting of the North Dakota State Medical Society and printed in the *Northwestern Lancet* for June 15, 1899. This patient was well one year after. I have endeavored to get the subsequent history as to conceptions, labors, etc., but have not yet succeeded.

Yours very truly,

THOR MOELLER, M.D.

[All the mention we find in the paper referred to is contained in the following very brief report of a case:

"Case 15.—Mrs. S., March 19, 1896. Ventrosuspension of the uterus by a bundle of the rectus muscle and fascia for retroflexion. Discharged in three weeks, was well a year after."

EDITOR.]

Unique (?) Case.

BURLINGTON, IOWA, Aug. 5, 1899.

To the Editor.—Country doctors sometimes see unique cases, and I should like to report the following as having been interesting, at least to me:

Early in May, of this year, I was consulted by Miss W. J., from a neighboring town, for a pathologic condition variously estimated as calculi of the liver, kidneys or bladder. I discovered cystic ovaries, and pyosalpinx of the right Fallopian tube, and advised removal. On account of severe pain, she readily consented, and the following day, after curettage, I removed degenerated tubes, broad ligaments, cystic ovaries,

subserous myoma with appendix vermifomis attached thereto, by adhesive inflammation; rapid and uneventful recovery.

Yours,
C. E. BARNES, M.D.

A. M. A. Week Clinics.

COLUMBUS, OHIO, Aug. 5, 1899.

To the Editor.—During the week of the meeting of the ASSOCIATION in Columbus, I made a number of private abdominal sections. Although there were no public clinics, all the operations were witnessed by numbers of my surgical colleagues who had honored me by asking to see me work. Several of them requested to be informed of the results of the operations, but as I am unable to keep a record of my visitors I have felt that the only way to reach them would be by a note to the JOURNAL.

The abdominal sections were twelve in number, ten of the cases being operated on at the Protestant Hospital and two at St. Anthony. I am happy to state that in all the cases recovery was absolutely uneventful and the patients all left the hospital promptly and in good condition. Very respectfully,

J. F. BALDWIN, M.D.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Annals of Surgery, August.

1.—*Two Cases of Traumatic Rupture of Colon, with Some Remarks on Cases of Rupture of Intestine Treated in Wards of St. Thomas' Hospital, London, between the Years 1889 and 1898, Inclusive. George Henry Makins.
2.—*Treatment of Injuries of Spinal Cord. Percival R. Bolton.
3.—*Observations on Detection of Small Renal Calculi by Roentgen Rays. Robert Abbe.
4.— Observations on Nephralgia with Report of Cases Simulating Stone in Kidney, Occurring at the Massachusetts General Hospital. Joshua C. Hubbard.
5.— Chondrocarcinoma of Testicle. Arnold Caddy.
6.—*Anterior Dislocation of Carpal Scaphoid Bone; Congenital Malformation of Clavicle. Alfred King.

Bulletin of the Johns Hopkins Hospital, July.

7.—*Present Aspect of Some Vexed Questions Relating to Tuberculosis, with Suggestions for Further Research Work. E. L. Trudeau.
8.—*Infusion of Salt Solution combined with a Special Method for Administration of Oxygen Inhalations as a Treatment in Pneumonia. Clement A. Penrose.
9.— Note on Pigment Production of Bacillus Pyocyaneus and Bacillus Fluorescens Liquefaciens. Paul Gerhart Woolley.
10.— Experiments Made to Determine Effects of Sugar on Pigment Formation of Some of the Chromogenic Bacteria. Paul Gerhardt Woolley.
11.—*Chronic Malarial Nephritis, with Report of Case. Charles W. Larned.
12.— Case in which the Bacillus Aerogenes Capsulatus was repeatedly Isolated from the Circulation During Life. N. B. Gwyn.

Archives of Otology (N. Y.), April-June.

13.— Contribution to Surgery of Temporal Bone. Robert Sattler.
14.— Extensive Laceration of Auricle and Complete Section of External Auditory Canal, with Partial Detachment of Sterno-Cleido-Mastoideus Tendon and Splintering of Tip of Mastoid by Blow from a Brick: Operation for Restoration of Auricle and Canal. Swan M. Burnett.
15.— Sarcoma of Frontal and Ethmoidal Sinuses. Swan M. Burnett.
16.— Fracture of Malleus and Annulus Tympanicus. Frank Allport.
17.—*Operation for Otitic Brain Abscess with Special Reference to its Curative Value. F. Röpke.
18.—*Intestinal Disturbances Produced by Otitis Media of Infants. Arthur Hartmann.
19.— Sarcoma of Middle Ear. L. D. Brose.
20.— Contribution to Technic of Perforating the Maxillary Antrum. O. Körner.
21.— Action of Sea-Climate and of Surf-Bathing on Aural Affections, and Hyperplasia of Pharyngeal Tonsil. O. Körner.
22.— Two Cases of Otitic Sinus Thrombosis, the One Fatal, the Other Ending in Recovery. Herman Knapp.
23.— Magnifier in Otoscopy. George Boenninghaus.
24.— Contributions to Statistics of Dangerous Complications of Suppurative Ear Diseases and of Operations on Mastoid Process. M. Teichmann.
25.— Percussion of Mastoid Process. H. Eulenstein.

Journal of Nervous and Mental Diseases (N. Y.), July.

26.—*Multiple Cavernous Angioma, Fibro-endothelioma, Osteoma and Hematomyelia of Central Nervous System in Case of Secondary Epilepsy. A. P. Ohlmacher.
27.—*Retardation of Pain Sense in Locomotor Ataxia. L. J. J. Muskens.
28.—*Contribution to Symptomatology of Intercranial Disease. Joseph Fraenkel.

Medicine (Detroit and Chicago), August.

29.—*Note on Aural Vertigo (Ménière's Disease) and the Organ of Equilibration. L. Harrison Mettler.
30.—*Practical Points in Diagnosis of Extrapulmonary Coughs. Albert Abrams.
31.—*Therapeutics; Past, Present and Future. George F. Butler.
32.— Some Clinical Observations on Action of Thermal Waters of Glenwood Springs in Gout and Lithemia. Richard K. MacAlester.
33.— Use of Cascara Sagrada in Habitual Constipation. Harold N. Moyer.
34.— Resection of Cervical Sympathetic in Treatment of Epilepsy, Basedow's Disease and Glaucoma. Thomas Jonnesco.

Medical Standard and No. Am. Practitioner (Chicago), August.

35.— Frederick Ruysch, Anatomist. Frank Webster Jay.
36.— Technic of Local Anesthesia (Continued). Aime Paul Heineck.
37.— Typhomalarial Fever. G. A. Smith.
38.—*Asthma and its Treatment. Henry B. Hitz.
39.—*Sanitation of Private Houses. J. F. Pritchard.
40.— Science of "Christian Science." H. Gasser.
41.— Importance of Thorough Static Insulation. B. Y. Boyd.
42.— Treatment of Pneumonia. I. W. Pritchard.
43.— The Era of Trusts. George P. Engelhard.
44.— Report of Pharmacopeial Committee of Ill. Pharmaceutical Association. C. S. Hallberg.

New Orleans Medical and Surgical Journal, August.

45.— The Charity Hospital from 1877 to 1894. W. E. Parker.
46.— Address Before Charity Hospital Alumni Association. Beverly Warner.
47.—*Experiments with Sanarelli's Anti-Amaryllic Serum in 1898. P. E. Archinard.
48.— Case of Gunshot Injury of Spine. S. P. Delaup.
49.—*Transposition of Viscera: Report of Case. L. G. LeBeuf.

Brooklyn Medical Journal, August.

50.— Report of Two Hepatic Abscess. E. D. Ferris.
51.—*Danger Signals of Pre-eclamptic State. C. Jewett.
52.— Functional Derangements of Ocular Muscles. E. W. Wright.

Buffalo Medical Journal, August.

53.—*"Christian Science" Methods. Nelson W. Wilson.
54.—*Catarrhal Deafness. A More Favorable Prognosis. Sargent F. Snow.
55.— Study of Pathogenesis of Gout. Mary Clayton.
56.—*Slipping of Intraperitoneal Ligature. R. Stansbury Sutton.

Cleveland (Ohio) Medical Gazette, July.

57.— Some of the Lessons of the Late War and their Bearing upon Trained Nursing. Isabel Hampton Robb.
58.—*Life Insurance Decision Following Gastro-Enterostomy. N. Stone Scott.
59.— Cranial Injuries of Childhood and Their Treatment. B. Merrill Ricketts.

Memphis (Tenn.) Lancet, August.

60.— Gunshot Wounds in Civil Practice. W. L. Estes.
61.— Enuresis Nocturna in Female. Gustav Kolischer.
62.—*Clinical Study of Chorea. Edwin Williams.
63.— Atypic Malaria in Children, with Case in Point. Rosa Engelmann.

Illinois Medical Journal (Springfield), August.

64.—*Therapeutics: Past, Present and Future. George F. Butler.
65.— Psycho-Physical Culture. W. Xavier Sudduth.
66.—*Etiology of Eclampsia. Chas. B. Reed.
67.— Treatment of Eclampsia. Joseph B. DeLee.
68.—*Complete Prolapsus of an Ovarian Tumor Through the Anus. Operation. Recovery. J. A. Baughman.

Medical Herald (St. Louis, Mo.), July.

69.— Relation between Doctor and Dentist. Daniel Morton.
70.— Report of Committee on Progress of Obstetrics, Mo. State Medical Ass'n. C. C. Dannaker.
71.— Treatment of Gastric and Intestinal Diseases. Johann Landau.
72.— The Specialist. W. C. Fulkerson.
73.— Treatment of Diabetes. C. H. Wallace.

Occidental Medical Times (San Francisco), July 15.

74.—*Malarial Fevers of Sacramento and San Joaquin Valleys. Philip King Brown.
75.— Sinus-Thrombosis—Cure without Opening the Sinus. Robert Levy.
76.— Cerebrospinal Meningitis, Three Cases. Death. Autopsy. S. J. Hunkin.

St. Paul Medical Journal, August.

77.— Complications and Sequels of Appendicitis. James E. Moore.
78.—*Tuberculosis of Breast. Homer Gage.
79.— Gummata of Pelvis. Arthur K. Stone.
80.—*Gelato-Glycerin Bougies in Treatment of Earache. George L. Richards.
81.— Puerperal Infection. E. W. Moore.
82.— Report of Two Cases of Stone Successfully Removed from Ureter. W. J. Mayo.

New England Medical Monthly (Danbury, Conn.), August.

83.—*President's Address. Joseph M. Mathews.
84.— Asthma and its Treatment. G. A. Gilbert.
85.— Infantile Scurvy. Thomas W. Harvey.
86.— Vertigo. Philip Zenner.
87.— Treatment of Goiter with Thyroid Extract. Walter U. Kennedy.
88.— Xeroform in Army Surgery. Emilio P. Noguera.

American Medical Compend (Toledo, Ohio), August.

89.— Care and Feeding of Infants. Wm. A. Dickey.
90.— Rectum and Pelvic Fasciæ. Byron Robinson.

Memphis (Tenn.) Medical Monthly, August.

91.— Surgical Aggressiveness. C. R. Shinault.

92.—Some Remarks on Pleurisy with Effusion. Report of Cases. Frank A. Jones.
93.—Some Causes of Dysentery. O. S. McCowan.
94.—Report of Three Surgical Cases. Appendicitis. Fracture of the Cranium. Intestinal Perforation. J. P. Runyan.
95.—Ectopic Gestation. J. E. Johnson.
96.—Ergot in Obstetrics. A. J. Jagoe.
97.—Choroiditis Tuberosa, or "Singers' Nodule," Some Desultory Remarks Thereon. Richmond McKinney.
98.—Stop Worrying. Adele E. Shaw.
99.—Report of Two Cases of Typhoid Fever. J. T. Norman.
100.—Case of Septicemia Following Abortion, Treated by Venesection, and Infusion of Normal Salt Solution. W. A. Franks and F. Bates.
101.—Case of Estivo-Autumnal Malaria with Crescents. Wm. Kraus.
102.—Simultaneous Use of Physiologic Salt Solution and Venesection in Puerperal Eclampsia. G. W. Penn.

Journal of Alumni Association of College of Physicians and Surgeons (Baltimore, Md.), April.

103.—*Some Smallpox Statistics. John Ruhräh.
104.—Case of Gunshot Wound of Abdomen with Multiple Intestinal Perforations. H. Westphal.
105.—Cephalic Version after Beginning of Labor. William S. Gardner.
106.—*Meddlesome Instrumentation in Urethral Diseases. W. L. Champion.
107.—Latent Cancer of Stomach. Julius Freidenwald and A. S. Hotaling.

Iowa Medical Journal (Des Moines), July.

108.—*Meckel's Diverticulum Simulating Appendicitis. A. L. Wright.
109.—Therapeutic Value of Rest. I. S. Bigelow.
110.—Some of the Duties of Physicians as Educators of the Public. Z. Fuller.

Louisville Medical Monthly, July.

111.—Epidemic Cerebrospinal Meningitis. J. P. Ferguson.
112.—Typhoid Fever. G. W. Baylor.
113.—Enuresis. L. Sexton.

Texas Medical News (Austin), July.

114.—Diphtheria. J. C. Shaw.
115.—*President's Address. Jos. M. Mathews.

North Carolina Medical Journal (Charlotte), July 20.

116.—*Treatment of General Suppurative Peritonitis. Stuart McGuire.
117.—Notes on Some Recent Eye Cases in Railway Practice. Dunbar Roy.
118.—Report of Case of Foreign Body in Esophagus. John H. Gibbon.

Columbus (Ohio) Medical Journal, July 20.

119.—Iris in Operation of Cataract Extraction. J. E. Brown.
120.—Ophthalmic Contributions to Pediatrics. Robert Sattler.

Medical Fortnightly (St. Louis, Mo.), August 1.

121.—Observations on Use of Midwifery Forceps and on Some Modifications in its Mechanism. Thos. M. Madden.
122.—*Modern Use of Synthetics. R. W. Wilcox.
123.—An Abnormal Sexual Condition. H. C. Jones.

New York Medical Journal, August 12.

125.—*Why Some Severe Cases of Appendicitis End in Recovery without Operation. J. H. Carstens.
126.—The High Aims of the Physician. Beverly Robinson.
127.—*Effects of Influenza on the Eyes. Henry S. Oppenheimer.
128.—*Hemoglobinuric Fever. Edward E. Feild.
129.—Pathology and Etiology of Rheumatism, with Some Remarks on Treatment. Cuvier R. Marshall.
130.—*Treatment of Forty-three Cases of Typhoid Fever with no Deaths, and with Complications in but one Case. Edward C. Seufert.
131.—*Some Remarks on Use of Suprarenal Capsule in Nose and Throat. J. Clarence Sharp.

Medical Record (N. Y.), August 12.

132.—An Abdomino-Sacro Method for Removal of Rectal Carcinoma. H. Otto Sommer.
133.—Acute Bronchitis—A Symptom; the Treatment from an Etiological Standpoint. Thomas F. Reilly.
134.—Case of Asexualism. Harlow Brooks.
135.—Epiphora, or Watery Eye; its Complications, Etiology and Management. J. H. Woodward.
136.—Operation for Celiotomy. Robert Bancker Talbot.
137.—Typhoid Mortality in Twenty-four American Cities, 1889-1898. F. S. Crum.
138.—Carbolic Acid Poisoning. J. D. Buchanan.
139.—Case of Crescent Malaria Occurring in Boy of 5 years, always resident in New York. Henry Heiman.
140.—Treatment of Pulmonary Edema of Cardioneurotic Origin. D. J. Hamburg.

Medical Review (St. Louis, Mo.), August 12.

141.—Report on Case of Hematomyelia. Theo. H. Romeiser.
142.—President's Address before No. Missouri Medical Association. J. D. Brummell.

Philadelphia Medical Journal, August 12.

143.—*Medical Services of Army and Navy. Alexander Ogston.
144.—*Sketch of Century's Progress in Medicine and Surgery. J. Ward Cousins.
145.—*Recent Advances in Physiology. J. J. Charles.
146.—*Etiology of Malarial Fever. George Thin.
147.—Case of Acute Dilatation of Stomach. Theodore B. Appel.
148.—Note on Case of Nervous Eructation Studied by Skiagrams. Albert Abrams.
149.—Rectal Carcinoma with Subsequent Colotomy. B. Merrill Ricketts
150.—To Remove Blood from Clothing. J. T. Rugh.

Cincinnati Lancet-Clinic, August 12.

151.—*New Remedies. Geo. J. Monroe.

Medical News (N. Y.), August 12.

152.—*Some Observations and Controversial Remarks on the Specific Cause of Yellow Fever. G. Sanarelli.
153.—*Tuberculosis of Kidney as Indication for Nephrotomy. Edward Reynolds.
154.—*Retention of Testicles with Report of Cases. L. L. Hill.
155.—*Choice of Drugs to Dilate the Pupil. Edward Jackson.

Maryland Medical Journal (Baltimore), August 12.

156.—*Special Schools for Special Children. Samuel J. Fort.

Boston Medical and Surgical Journal, August 10.

157.—*The Proteids of the Urine. William B. Hills.
158.—*Osteo-Arthritis of Spine: Spondylitis Deformans. Joel E. Goldthwait.
159.—*Operations in Treatment of Palmar Abscess. W. A. Brooks.
160.—Preliminary Notes on Prognosis of Nephritis. Richard C. Cabot and F. W. White.

AMERICAN.

1. **Rupture of Colon.**—Two cases of traumatic rupture of the colon have within three years come under the observation of Makins. He reports both cases and discusses the symptoms and treatment of intestinal rupture generally. As regards causation, he finds that the one factor of importance is the severity of the violence and its localized action. The small intestine is most liable to injury, owing to its more exposed situation. He thinks that it may be affirmed that blows over the abdomen above the navel are not very likely to cause intestinal rupture unless the violence is directed so as to press the gut against the spinal cord. In such a case injury to the mesentery or omentum is nearly as likely as one of the bowel itself. The analysis of the symptoms is as follows: shock was very variable, in most cases comparatively slight; abdominal pain was constant, always continuous, and often not severe; rigidity of the abdominal wall was constant and not pathognomonic; abdominal distension was rare in the early stages and only occurs with the advent of peritoneal septicemia. Tenderness may be regarded as a constant sign, though it is not always reported. Percussion signs are variable, but the data are imperfect in regard to them in the cases analyzed. In the two varieties of local resonance, dulness and tympanites, he regards the least extensive one as of the most importance. The importance of dulness depends largely upon its fixity. The pulse shows a steady tendency to rise in frequency and lose in strength. The temperature may be low in the beginning, but subsequently rises. Tendency to defecation or passage of blood is of importance. The diagnosis must in most cases be made by exclusion of injury to the solid viscera or the bladder which have their own special signs. The history as to the location and manner of the injury is also of value. Localized tenderness, dulness, etc., with shock, pain and vomiting are of importance, and such signs especially characteristic of intestinal injury, such as cellular emphysema localizing the injury to the uncovered portions of the duodenum or colon, or possibly free gas in the peritoneal cavity may be present. Any of these signs with a rising pulse above 100 will be indications for abdominal exploration. A definite diagnosis from rupture of the mesentery is often impossible, and the conditions may coexist. One sign, however, is of definite value in localizing injury to the mesentery, namely, the presence of a large quantity of free blood in the peritoneal cavity. The prognosis has been considered bad, but of the twenty cases analyzed, three recovered. Fifteen were operated on, including the recovered cases. The average duration of life in the fatal cases amounted to a little over fifty-nine hours, but excluding other cases which lived four, five, six and nine days, respectively, the average duration of the remainder was just forty-eight hours. Operation can not be too early if the injury is diagnosed or suspected, and the best site for incision is in the median line between the umbilicus and pubes to one or the other side of the linea alba. In all moderate rents the Lembert suture is to be preferred. The peritoneum should be cleansed by a preliminary dry sponging of the affected area followed by irrigation and flushing. Drainage should be avoided if possible. Rectal feeding should be relied on for the first twenty-four hours, after this, in the absence of vomiting, fluid nourishment may be given by the mouth. The paper ends with the brief details of the twenty cases analyzed.

2. **Injury of the Spinal Cord.**—Bolton's conclusions are as follows: 1. Extradural hemorrhage does not give rise to cord lesions or symptoms, and requires no treatment. 2. Total

lesions of the cord are irremediable, because the cells and fibers of the entire thickness of the cord are destroyed, are never regenerated, and are replaced by cicatricial tissue. The lesion is thus permanent and needs no treatment. 3. In hematomyelia the clot is absorbed; its site persists as a cavity or is filled by newly formed tissue; irregularities of circulation in the surrounding portions of the cord adjust themselves. There may be great amelioration of the symptoms. There is, therefore, no therapeutic indication, and no remedial treatment is possible. 4. In partial contusion of the cord the lesion results in permanent destruction of the cells and fibers; disturbances of circulation adjust themselves. Repair is accomplished by cicatricial tissue. No treatment is available. 5. In open injuries of the cord there is destruction of cells and fibers and disturbances of the circulation. In addition, infection may occur or a foreign body may be introduced and left in or lodged against the cord, and by its continued presence produce great disturbance of circulation and consequent extensive degeneration and necrosis of cells and fibers. Repair occurs by cicatricial tissue as before. But here active operative interference is indicated to remove foreign bodies, to facilitate disinfection, to prevent more extensive necrosis, and to facilitate drainage.

3. **Detection of Renal Calculi by X-Rays.**—In this paper Abbe has collected 27 cases, including two personal observations in which operation verified the diagnosis of renal calculi by radiographs. He believes that in most people of spare habits, and in young subjects, the stone in the kidney can be found with reasonable certainty. He also thinks that while the technical work of producing a successful radiograph is not yet thoroughly studied out, it seems probable that a quick penetrating focus tube with very short exposure would show stones that would be lost in long exposures.

6. **Congenital Malformation of Clavicle.**—Besides a case of anterior dislocation of the carpal scaphoid bone, King reports a case of a woman who had fractured her right collar-bone in childhood, resulting in nonunion through neglect. She had had three children. The first died in infancy, the condition of its clavicle unnoticed. The other two have a congenital ununited apparent fracture of the collar bone on the same side, with the same appearance as that of their mother. There were no accidents during pregnancy, nor to the children, and both labors were natural.

7. **Tuberculosis.**—Trudeau calls attention to a number of yet unsettled questions in regard to tuberculosis, its etiology, the wide variation in the manifestations of the disease, what constitutes virulence in the infecting bacilli, how do they grow out of the body, what is predisposition? As regards its pathology, the problems here suggested are chemical changes in the digestive secretions, condition of the blood, pathologic changes causing cure in peritoneal tuberculosis after laparotomy, the factors determining local immunity, the meaning of the presence of tubercle bacilli in the different secretions, of the production of beading of the tubercle bacilli, within and outside of the body, its relation to spore formation and to the nature of the bacillus itself as regards prophylaxis; we need still further study of the sources of infection, and he mentions a number of questions as regards bacteriology and antitoxins. As regards diagnosis, the mechanism of the tuberculin reaction requires study, and the use of X-rays is recommended, and as to treatment the chemical inoculation, antitoxin and immunizing are questions as yet in many points unanswered. He partially reports his own experiments on guinea-pigs, as yet incomplete.

8. **Salt Solution Infusions and Oxygen Inhalations in Pneumonia.**—Penrose describes the method used in the Johns Hopkins Hospital for infusion of normal salt solution in pneumonia, and reports two cases, also a method of giving oxygen by means of a funnel held by a framework, the oxygen having passed through a hot inhalation mixture. He believes that infusion of salt solution increases the circulation of the lungs and their ability to take in oxygen.

11. **Chronic Malarial Nephritis.**—The two points of special interest in the case reported by Larned are, he states, the rarity of the malarial type, the quartan, and the associated nephritis, which was almost certainly dependent on this or a previous malarial infection. He says: The conclusions to be drawn from this and other cases already on record, especially Thayer's and those of Kelsch and Kiener, are: 1. Certainly in some localities malarial fever should be given a prominent position in the etiology of chronic as well as acute nephritis. 2. In all cases of malarial fever the urine should be carefully watched. 3. A blood examination should be made in all cases of nephritis occurring in those who have visited or lived in a malarial district, as it often happens that the severe grade of nephritis resulting may entirely mask the clinical picture of malarial fever.

17. **Otitic Brain Abscess.**—Ropke's paper discusses the subject of brain abscess from ear disease, quite thoroughly, noticing the literature in detail. After describing the technic of the operation and discussing the question as to whether brain abscess can disappear spontaneously, which he thinks can be admitted in rare cases, he gives the results of 141 cases operated on, and which he has been able to collect and analyze in detail. Of the 141 operated cases, there were 57 permanent cures or 40.4 per cent., a result which refutes the very unfavorable estimate of some authors as to the curability of this condition. Of the 26 cases following acute otitis, 43.2 per cent. were cured, and we have very nearly the same percentage—43.1 per cent.—of the 109 after chronic otitis. The operation, therefore, has about the same prognosis in either case. The symptoms which give the indications for the operation do not help us very much as regards prognosis. Cases with normal or subnormal temperature are frequently more favorable than those which run a violent course, as the virulence of the infection seems to be less and complications are less likely to occur. The presence of focal symptoms before operation is of no value in estimating the future course. The size and site of the abscess are important. The small abscesses situated near the surface of the brain naturally afford a better prognosis than the larger and deeper ones. It is especially important to note whether the abscess contains pathogenic germs. The color and odor of the pus give no clue as to its virulence. When the abscess lacks lining membrane, and is irregular in its outline, it is more serious, and the more brain tissue disturbed during the operation, the worse. In his 141 cases, 81 were operated on through the squama, with 38.3 per cent. recovered; 43 operated through the tegmen, with 40.2 per cent. cures; in 7, where the combined opening was made through both, 5 or 71.1 per cent. recovered.

18. **Intestinal Disturbances Produced by Otitis Media.**—Hartmann, after noticing the cases reported by others, deduces the following conclusions: 1. Acute febrile otitis causes a diminution in weight, or arrest of increase of weight. 2. Otitis accompanied by grave septic symptoms probably causes diarrhea. 3. An acute febrile otitis occurring during intestinal diseases may act on the general constitution, and by reducing the vitality, aggravate the intestinal affections or retard recovery. 4. Whether there is a direct relation between atrophy and otitis, must be reserved for further observations. He reports nine cases. The latter part of his paper is devoted to the diagnosis of infantile otitis.

26. **Multiple Cavernous Angioma.**—Ohlmacher's article describes, at length, a case of multiple angiomatous tumors of the brain and spinal cord, and a fibro-endothelioma of the dura. The latter gave rise to epilepsy, the spinal tumor, causing transverse destruction of the spinal cord, and ending in an extensive hemorrhage, revealed on autopsy. The pathology is very fully worked out and discussed.

27. **Retardation of Pain Sense in Tabes.**—Muskens has noted a special retardation of pain sense on the borders of analgesic areas in tabes, when the sense of touch is still intact. This border varies much in width, from a millimeter or less to some decimeters; it is widest as a rule in the lower extremities. He thinks this special retardation of pain sense is an important and early symptom of the disease, probably always preceding the analgesia, and probably of differential diagnostic value.

28. **Symptomatology of Intracranial Disease.**—Fraenkel's paper is a painstaking analysis of two cases, one probably of specific thalamic gumma, and the other diagnosed as tubercular disease involving the cerebellar and pontine region. This patient died in uremic coma. From a careful analysis of the symptoms of the first case, emotional spasticity, mental hebetude, pupilary and ocular symptoms, abolition of the psychic reflex of the seventh nerve, mild and slowly progressing hemiplegia with inconstant spasticity, muscular atrophy and in-

co-ordination, depression of all vegetative reflexes, with absence of hemianopia and sensory disturbances in the opposite side of the body, he concludes that the tumor was in the anterior portion of the thalamus. The autopsy findings in the cranium in the second case were not very decisive, but the suggestion of a tubercular basilar meningitis existing to some extent was rather confirmed than otherwise.

29. **Aural Vertigo.**—The point made in Mettler's paper is that the nucleus of Deiter is probably the true center of equilibrium, that the sense of equilibrium is essentially a complicated sensory motor phenomenon, and the semicircular canals alone are not especially its organs. He aims to show, by his anatomic and physiologic discussion of the subject, that vertigo may be produced by irritation of any of the ramifications of the apparatus of equilibration, in the eye or stomach for example, as readily as in the ear.

30. **Extrapulmonary Coughs.**—Noticing first the difficulty of the problem of always giving a careful etiology of a cough, Abrams mentions certain methods of diagnosis, such as the use of iodid of potash, bromoform, etc., and calls attention to the influence of irritation occurring from the skin, ear, nose, nasopharynx, the pharynx, the tonsils, the uvula, and lingual tonsil, as especially producing these symptoms. It may, however, be aroused from the teeth, esophagus, liver, spleen and pleura. The so-called stomach cough is also largely corroborated by clinical observation.

31.—See ¶ 64, below.

38. **Asthma.**—Hitz suggests that one of the commonest causes of asthma is a reflex from the nasal mucosa, and he states that in every case that has come under his observation immediate relief has been afforded by the direct application on a probe of 10 per cent. solution of cocain to the points of contact of tumors and soft swellings with the septum—a diagnostic measure to which there is no superior. In the vast majority of asthmatics he claims that swellings or points of pressure and irritation appear to be in the region of the middle turbinal and usually greatest in its posterior aspects. He reports seven cases illustrating his views and points out removal of the growths as treatment.

39. **Sanitation of Private Houses.**—Pritchard calls attention to the sanitary shortcomings in homes: the unhealthy, many-layered wall paper, the carved and cracked or ill joined woodwork, hiding germs, and the defects in ventilation in old houses. He would have painted walls, well-seasoned woodwork with all cracks and holes puttied up, and painted floors laid close and not requiring carpeting, furniture without upholstering that may gather dirt, germs, etc.

47. **Sanarelli's Serum in Yellow Fever.**—Archinard here reports the results of a series of experiments made on yellow fever patients with Sanarelli's serum, received from Monte Video. The ten cases thus experimented on are recorded in detail. Archinard concludes that this agent has, in his hands, shown no curative power whatever, none of the important and dangerous symptoms having been in any way mitigated or prevented by its administration. In justice to Sanarelli it must be said that he has never claimed his serum curative in severe cases, and most of these were severe. It is not always easy to use it early, and, judging by experience, the great majority of cases are benign and get well under any treatment. Necessarily serum employed at random in these cases would be at great advantage. Archinard is skeptical also in regard to any immunizing property of the serum, judging from his experiments on animals. In the human species he has had no experience.

49.—See abstract in JOURNAL, July 8, p. 102.

51. **Danger Signals of Pre-eclamptic State.**—Jewett assuming that eclampsia is due to toxemia, adopts the view of Hughes and Carter that it is probable that in addition to the pathogenic poison of uremia there are under certain conditions other secondary ones active in the production of the toxemia; that the poison producing uremia will also produce nephritis, and that it is possible to have uremia without previously existing kidney lesions. He notices, for the sake of brevity, only a few of the leading urinary signs to be noticed as danger signals. The first of these, albuminuria, is especially valuable on account of its ease of detection. Unfortunately, however, too many physicians trust to it alone, and are not sufficiently persistent and frequent in their testing. He believes that it is more frequently found early in the pre-eclamptic state than is commonly recognized. It is a fact, however, that cases of eclampsia occur with no kidney lesions found at the autopsy. How long and to what extent albuminuria may have existed in such is a question he does not attempt to answer. The second sign noticed is the urea, which is especially valuable on account of its ease of determination, but on it too implicit reliance should not be placed, as it may have quite a wide range in normal individuals. These cases, however, are exceptions, and noticeable diminution of this substance in the urine should excite suspicion. A most important and too frequently neglected element in the prognosis as relates to the pre-eclamptic condition is the daily quantity of the urine. It is especially useful, as it is a matter that can be trusted largely to the patient's observation. With necessary precautions, close observation of this element has greater value than urea determination. None of the foregoing should be alone depended on. All must be watched. The urine being normal in amount and character, true puerperal eclampsia need scarcely be feared, but departure from the normal in any of these points demands special vigilance.

53. **"Christian Science" Methods.**—Dr. Wilson's article is an interesting account of certain "Christian Science" methods, with extensive quotations from a report of a *New York World* reporter who took a course in "Christian Science" in order to be able to enlighten the public in regard to it.

54. **Catarrhal Deafness.**—The object of Snow's article is to point out that many cases of catarrhal deafness are considered incurable and unnecessarily neglected. He thinks that in most cases we will find a cause which is removable, and that the disorder is a preventable one. His plan in chronic catarrhal inflammation is to see that all removable causes are cared for, and to make a new test of the hearing and then begin with vapor of camphor and iodin in interrupted jets through the Eustachian catheter. It serves the purpose of toning up relaxed or atrophied membranes, increasing ossicular mobility and absorbing inflammatory products. This treatment should be repeated according to the case, every day or twice a week until the sensitiveness of the tubal membranes is removed, relaxed blood-vessels toned up and improvement in hearing ceases. Active treatment may then be discontinued, but the patient is instructed to report on every new sign of deafness. These periods of rest may be regularly increased until three to six months elapse between the treatments. Under this plan he has obtained very satisfactory results in cases where an unfavorable opinion has been given.

56. **Slipping of Intraperitoneal Ligature.**—Noting the frequency of the unfortunate accident of slipping of the intraperitoneal ligature, Sutton calls attention to the unsurgical practice of tying en masse, and he thinks it is better surgery to tie the ovarian artery at the big infundibulum pelvicum, and the uterine below the cornual extremity of the Fallopian tube, and to strip out the tube and ovary entirely from the ligamentum latum, closing the open edge of the latter with a catgut suture. With this method the conical retracting stump is avoided, with all tension, and the removal of the ovaries and tubes is more complete. In cases where it is not possible to safely secure vessels with a ligature, Doyen's crusher will serve a useful purpose or, where it is desirable, the application of a pair of heavy clamp forceps will prepare a bed for the ligature. It will hold better in the groove of crushed tissue thus made.

58. **Insurance Decision Following Gastro-Enterostomy.**—A case reported by Scott is of interest as showing the decision of a life insurance company in regard to a case of gastro-enterostomy. The patient, a man, 45 years of age, was operated on for non-malignant pyloric stenosis. Simple gastro-enterostomy between the anterior stomach wall and the jejunum was performed, with the result of perfect recovery. The patient's life insurance being nearly run out, and re-examination required, the doctor wrote to the New York Life Insurance Company and stated the nature of the case and the details of the operation, and received in reply the statement that they would admit the patient to examination though only one year and a half had elapsed after operation.

62. **Clinical Study of Chorea.**—Williams, after noticing

the accepted views and facts in regard to chorea, reports four cases as illustrating the different causes producing the disease. In the first case eye strain seems to have produced it in a boy 11 years old; the second case was apparently caused by fright in a child; the third was a girl 9 years old, with psychopathic family history, she had a fall, injuring her head, and fracture of the skull was diagnosed, but operation was refused. Epilepsy and chorea both followed, the choreic movements being confined exclusively to the left hand and arm. Trephining was performed over the scar on the skull and a spicule of bone pressing down on the ascending parietal lobe of the right hemisphere, 1½ inches below the upper margin of the hemisphere, was removed. Recovery was uninterrupted and both disorders disappeared for as long as the child was under observation. The last case appeared to be due to reflex irritation from adenoids, and on their removal the chorea ceased. Williams emphasizes the importance of close examination as to the causal factors in each individual case.

64.—See abstract in JOURNAL, May 27, p. 1171; also ¶ 31, above.

66.—This paper appeared in full in the JOURNAL of June 24, p. 1420; see also, Ibid, May 27, p. 1173.

68.—See abstract in JOURNAL, June 3, p. 1256.

74.—Ibid, May 13, p. 1053.

78. **Tuberculosis of Breast.**—Gage reports a case of tuberculosis of the breast in a woman 43 years old, with microscopic examination, and discusses the subject of this tubercular manifestation. Up to date there have been reported 55 cases, besides his. Out of the 56, but 4 were males and more than half of the women had borne children. He thinks, therefore, that functional activity was in some measure a predisposing cause. In 20 per cent. there was a tubercular family history. As regards the mode of introduction of the germ, he believes that it is through the circulation, finding a point of least resistance in the breast. The clinical history is rather vague, there may be pain or there may be the want of it. Constitutional disturbances are slight, and the progress usually slow. The diagnosis must often be left until the breast has been removed, in accordance with the general rule that any growth in the breast associated with enlarged lymphatics requires excision. The treatment is surgical and the removal should be radical.

80. **Gelato-Glycerin Bougies in Earache.**—Richards calls attention to the value of gelato-glycerin bougies in the treatment of this affection, as they can be inserted in the ear without difficulty, by simply washing off the lycopodium powder, when they slip in readily and dissolve so that the anodyne is brought into immediate contact with the inflamed surface. He gives the following formula, which can be made by any druggist:

Acid carbolic	m. 7
Fl. ext. opium	m. 6
Cocaine	gr. 3
Atropin sulph	gr. 3
Water	m. 52
Gelatin	gr. 18
Cocain	gr. 3
Glycerin	gr. 158

M. To make 42 bougies.

After making they are covered with lycopodium powder and dispensed in a bottle, as they are somewhat hygroscopic. He believes that if used early enough they will in many cases prevent the need of paracentesis.

83.—This address appeared in the JOURNAL of June 10, p. 1273.

103. **Some Smallpox Statistics.**—Ruhräh reports the statistics of the Quarantine Hospital at Baltimore as regards smallpox. There were 1106 cases; 441 of these had been vaccinated at some previous period, 645 had never been vaccinated, and 20 had been, but unsuccessfully. Of the 441 cases there were 378 recoveries, 63 deaths, and a mortality rate of 14.3 per cent. Of the 645 unvaccinated, there were 330 recoveries, 315 deaths, and a mortality percentage of 48.8. Of the 20 cases of unsuccessful vaccinations, there were 6 deaths and 14 recoveries, and the mortality rate 30 per cent. The total mortality was 34.7 per cent. In 105 cases the variety of the disease was stated; 55 of these cases had been vaccinated, 49 recovered; 43 discrete, 6 confluent; 6 died, discrete 1, confluent 5. Of the unvaccinated cases, 50 in number, 27 recovered; 15 discrete, 12 confluent; 23 died, discrete none, confluent 21, hemorrhagic 2. These figures show that in those who had been vaccinated, how long before not stated, the percentage of recovered was greater and the disease in most of the cases discrete. All but one of the fatal cases were confluent, and that one died of complicating pneumonia. In the unvaccinated most of the cases were confluent.

106. **Meddlesome Instrumentation in Urethral Diseases.**—The unsurgical and disastrous results of meddlesome instrumentation in urethral disorders is the theme of Champion's article. He condemns the use of small steel instruments below 18 or 20 French. Steel sounds for exploring the urethra should be abandoned. If the urethra is sensitive, or there is a discharge from the canal, first treat by irrigation until the sensitive condition has disappeared and the discharge is controlled, before using instruments. Instruments are passed too often in treating stricture, and he states that as a rule it is bad surgery, in treating stricture by dilatation, to reintroduce an instrument—unless it be filiform—before the lapse of at least seventy-two hours, and more rapid progress will be made by waiting ninety-six hours, often even seven to eight days. The practice of doing internal urethrotomy in the office and allowing the patient to go home can not be too strongly condemned. It is a dangerous operation and the patient should be kept in bed for at least five days, better a week. In his opinion, after internal urethrotomy instruments are too frequently passed. Every fourth, fifth or sixth day will give as good results and less pain than the shorter intervals. He emphasizes the importance of irrigating before surgical operation on the urethral canal, whether it be mere passage of the sound or an internal urethrotomy. If this is done there will be fewer cases of urethral fever and less irritation and inflammation. Latterly he has used hydrostatic irrigation in the treatment of inflammatory conditions of the urethra and bladder and finds it better than any other method. The container, which holds a prescribed quantity of the fluid to be used, is raised eight to nine feet from the floor. The anterior urethra is first thoroughly washed out and the glass nozzle employed is placed firmly against the meatus and the patient told to breathe deeply or try to urinate and the fluid flows back into the bladder. When the bladder is full, he is allowed to pass it and it is again refilled. The advantage of this is that it distends the urethra completely, and forces the pus and germs from the glands and follicles.

108. **Diverticulitis.**—Wright reports a case of inflammation of Meckel's diverticulum simulating appendicitis, and operated on with success, by excising about three inches of the ileum with the diverticulum. This was done on account of the extreme thinness of the intestinal walls at this point, and from this he concludes there was probably a traumatic origin of the diverticulum. A Murphy's button was used and passed the nineteenth day. The clinical symptoms were entirely those of appendicitis, but the true appendix was found lacking.

115.—See ¶ 83, above.

116. **General Suppurative Peritonitis.**—McGuire reports his method in the treatment of general suppurative peritonitis. He calls attention to the importance of early diagnosis and operation, and the necessity of multiple incisions for thorough work. Primary incision should be made at the point giving the shortest and most direct route to the focus of infection. The secondary ones should be usually three in number, one opposite, below or above, the primary incision, and the other two in the posterior lumbar region. In females an opening through the Douglas sac will be of service. These secondary incisions should be large enough to permit the easy insertion and passage of gauze drains, but not large enough to cause danger of bowel protrusion in coughing, or vomiting. To cleanse the abdomen thoroughly it should be emptied, the intestines should be drawn out through the incision, wrapped in the hot gauze towels and laid to one side. The cavity should then be wiped out with moist gauze compresses and the bowels gone over loop by loop and freed from all infection. This should be done under continuous hot irrigation; plain sterilized water will be sufficient. In many cases the bowels will be found paretic and distended with gas, and it would be fatal to return them in that condition. They should be incised at several points and the tension relieved. As soon as the gas escapes the opening

should be sutured, the surface sponged off, and this operation should be repeated at other points until the distension is done away with and the bowels can be returned without force. Drainage is essential, as it means that we have no other measure available to insure complete asepsis of the cavity. Gauze drains should be left in position as long as they are doing good; usually they can be removed in from three to five days. The after-treatment is the same as in any other case of abdominal section.

122. **Modern Use of Synthetics.**—The title of this paper is slightly a misnomer, as it is special and not general in its subject. The paper is confined to a statement of benefits and advantages of kryofin, which the author thinks is a very valuable addition to the pharmacopeia.

125. **Appendicitis.**—Why some severe cases of appendicitis end in recovery without operation is explained by Carstens on anatomic grounds. In several cases observed during the last years, he found some interesting peculiarities which serve to answer this question. In one case the end of the appendix was adherent to the cecum in such a way that there was no peritoneal tissue between them. In this suppuration of the appendix would find an easy outlet into the cecum, readily penetrating the muscular wall. In a second case the appendix was adherent to the cecum throughout its whole extent, and the same condition existed as in the former, only more extensively. He gives tabulated statements of thirty-three operations for appendicitis in 1898, with two deaths.

127. **Effects of Influenza on the Eyes.**—Oppenheimer gives a long list of ocular complications of influenza, from medical literature, and explains them as follows: As regards glaucoma, he thinks the cases occurring may be accounted for by the general reduction of strength and vitality. The same will account for the lighter grades of paresis of the muscles, especially those of accommodation. In the hemorrhage, in various parts we have the changed condition of the blood as a probable responsible factor, and this without taking into account the septic emboli to be further mentioned. No specific effect is necessary to explain them. They occur in all conditions affecting the condition of the blood. The purulent uveitis and orbital cellulitis and panophthalmitis must be explained by emboli containing pyogenic cocci, but he is not prepared to say how far the Canon-Pfeiffer bacillus is responsible. The severe nervous troubles are best accounted for, in his opinion, by malnutrition, using the word in its broader sense, combined at times with localized edema. As an example of this effect, he refers to the ocular symptoms observed in Russian prisons and barracks during the long fast of six weeks enjoined by the Greek church. He says: "Thus, to my mind, the lack of appetite, the vitiated functions of the digestive apparatus, the consequent changes in the blood, lowered nutrition, together with the great depression of the heart's action (which is in all probability due to toxines produced by the yet undiscovered causative microbe), will account for the profound impression upon the nervous system which is so commonly observed, and explain the chromatopsia, scotomata, inflammations and paralyses of the nerves and muscles supplied by them."

128. **Hemoglobinuric Fever.**—Feild describes the differential diagnosis of hemoglobinuric fever, yellow fever and ordinary bilious remittent. Between hemoglobinuria and yellow fever we have the following differences. In hemoglobinuria we have no immunity, its occurrence in malarial districts, high external temperature not required; its occurrence at all seasons of the year; its non-infective nature; the excessive amount of urine, high colored and of high specific gravity as opposed to the scanty urine of yellow fever. The peculiar ratio of slow pulse and high temperature so notable in yellow fever is lacking in hemoglobinuric fever. The jaundice is very rapid, no hemorrhage occurs except from the kidneys, remission in a few hours is the rule; lack of violent headache and the characteristic flush and physiognomy of yellow fever, and the fact that negroes are exempt are also distinguishing characteristics. In ordinary bilious remittent, the slower onset and less rapid and intense jaundice, the absence of black vomit, the hemorrhage from mucous surfaces and the heavily white furred tongue are notable points of distinction. The treatment most successful in Feild's cases was the relief of constipation by salines, the withholding of quinin, hypodermics of morphin for the great pain and restlessness, cold to the head and the administration of arsenic to prevent recurrence of the malarial paroxysm. He thinks that theoretically the flushing out of the kidneys with soft water would seem to be indicated. The other treatment should consist of keeping up the strength of the patient, allaying irritability of the stomach, giving liquids only, etc.

130. **Typhoid Fever.**—The antiseptic treatment of typhoid fever is strongly advocated by Seufert, who, in addition to the precautions of rest and diet and cold sponging—the Brand method was not utilized—treated his cases with an opening dose of calomel, one grain every two hours, followed by intestinal antiseptics, salol, naphthalin and carbonate of guaiacol. Each was given in the order indicated, for one week, salol in 5-grain doses every two hours, naphthalin in 5-grain doses every three hours in capsules, and the third week guaiacol in 2.5 grain doses every three hours until convalescence. Constipation was relieved by Rubinat water, and diarrhea and meteorism, which occurred in only six cases, were easily controlled by turpentin emulsion with deodorized tincture of opium. In the one case of an 8-year-old sickly child, which was complicated by pneumonia, chorea, pericarditis and endocarditis, the treatment was also with ice bags, Fowler's solution, three drops every four hours in water, and full doses of strychnin. Tonics were used during convalescence. The average duration of the fever was twenty-one days, the longest case nine weeks. An analysis of the symptoms is given.

131. **Suprarenal Capsule.**—The suprarenal capsule as an astringent is highly recommended by Sharp in diseases of the nose and throat, in a 10 per cent. aqueous extract, made up freshly. He thinks it will contract the mucous membrane of the nose as much as cocain, without the danger and depressing effect of the latter.

132. **Abdomino-Sacral Operation for Rectal Carcinoma.**—Sommer describes a case observed by him in Kraske's clinic, in which the latter performed an operation for carcinoma of the rectum situated high up by first opening the abdomen and freeing the adhesions, then packing the cavity with gauze, placing the patient in a right lateral position and performing the sacral operation which goes under his name. He is inclined, the author states, to use this combined operation more generally in such cases. Its chief advantages are the possibility of delaying the opening of the bowel until it has been isolated; shock seems to be a matter of comparatively little consequence, and tumors, which were practically inaccessible by the sacral route alone, become accessible. Another advantage is that the removal of the tumor and resection of the rectum can be done externally, and the complete removal of surrounding infected tissue is made possible, and still another is the facility of ligating the intestinal vessels. The operation observed was perfectly successful.

133. **Acute Bronchitis.**—In this article Reilly discusses the etiology of bronchitis and thinks that it is due to a toxemia. He strongly suggests its connection with lithemic poisoning. As regards treatment, he objects to the use of expectorants and doubts their curative effects. The rational therapeutics of the disease consist, he holds, in repeated cleansing of the intestinal tract, aiding the skin and kidneys in the elimination of toxic products by repeated diaphoresis and the ingestion of a large quantity of water, and in the neutralizing or hastening the elimination of the so-called lithic acid poisoning. He concludes as follows: 1. Acute bronchitis is a symptom. 2. The diseased condition of which it is a symptom is a toxemia, which may be due: *a*, to the so-called uric-acid poison; *b*, to auto-intoxication from the intestinal canal; *c*, to specific infectious agents. 3. The treatment with nauseous mixtures under the name of expectorants, is illogical, and is opposed to modern therapeutics. 4. In every case we should endeavor to discover the etiologic factor, and treat the same.

134. **Asexualism.**—Brooks describes a case of approximate sexual neutrality with feminine general contour and tendency and rudimentary external male organs. He thinks these cases are more frequent than supposed, especially in the female type.

135. **Epiphora.**—The description of this condition by Woodward, and the discussion of its etiology and treatment form the subject of a rather lengthy paper. He classifies the causes as those indicating excessive production of tears and those interfering with the proper functions of the drainage system.

The former include emotional states, conjunctival inflammations, and various ocular irritations, eye strain and reflex irritation from the nose with other things that increase the sensibility of the fifth nerve. The drainage of the eye depends on the perfection of its apparatus, the patency of the punctum, the permeability of canaliculi, the normal condition of the lachrymal sac, the permeability of the duct and the pathologic conditions in the nose. The treatment consists in opening up the punctum by removal of a V-shaped segment from the posterior wall, and he has for many years been in the habit of removing, in cases of insufficiency of the canaliculum, a portion of the whole of its posterior wall. Other details are fully described and asepsis insisted on.

136. **Celiotomy.**—Talbot's paper details the methods of celiotomy. He speaks highly of the Tuffier's angiotribe for securing the vessels in celiotomy.

137. **Typhoid Mortality.**—The mortality from typhoid fever in twenty-four American cities given in tabulated form with brief comments, makes up the substance of Crum's paper. It shows that the typhoid mortality-rate is uniformly high, but that there has been an improvement in most cities during the past decade. The percentage of reduction during the last five years ranges from 71 in Newark to 4.7 in Boston. In New Orleans only is there a higher typhoid rate of late years than during the first half of the decade. The reduced rates are in most places directly attributable to improvement in the water-supply, and Newark and Chicago head the list, the percentage of reduction in the latter city being 61.2. The highest mortality-rate is in Pittsburg, the lowest in Brooklyn. The epidemic in Philadelphia, of this present year, is not included in these statistics.

143. See editorial abstract, JOURNAL, August 12, p. 419: also London letter in this issue.

144. See abstract, JOURNAL, August 5, p. 355.

145. See editorial abstract, JOURNAL, August 12, p. 419: also London letter in this issue.

146. Ibid.

151. **New Remedies.**—The multiplicity of new preparations of all kinds is deprecated by the author. He criticizes the acceptance of samples by physicians, and thinks that they do not always represent the average preparations.

152. **Yellow Fever.**—Sanarelli's paper is a controversial article combating criticisms that have been made against his claims, by Sternberg, Reed and Carroll, and Novy. He maintains that exposure to cold has no effect on his bacillus.

153. **Tuberculosis of the Kidney.**—The text of Reynold's paper is that tuberculosis of the kidney is not the hopeless bilateral affection which it has been considered, and is often unilateral and suitable for surgical treatment. The symptoms in the cases on which he founds his opinion were simply general debility and urinary discomfort, with tubercular antecedents. The diagnosis was made by palpation over the kidneys and the course of the ureters, visual inspection of the bladder and in the absence of definite lesions of this viscus, a catheterization of the ureters and the submission of the separate urines, not only to microscopic examination, but also to inoculation experiments, the latter being especially important as shown by one of the four cases he here reports.

154. **Retention of Testicles.**—After noticing in a general way the facts in regard to this condition, Hill reports three cases of operation in which relief was obtained. In the last case there was a reflex epilepsy which seems to have been relieved also.

155. See abstract in JOURNAL, April 29, p. 938.

156. **Special Schools for Special Children.**—Fort's article dwells on the importance of manual training for weak-minded and backward children.

157. **Proteids of Urine.**—After reporting a couple of cases Hills describes the conditions of globulinuria and peptonuria. The first case was one of pure globulinuria, a rare condition, though globulin is very commonly found in connection with other proteids. In fact, albuminous urines in a great majority of cases contain it, while it is the sole coagulable proteid in a small proportion of cases. The same is also in all probability true of albumin. The significance of globulin in the urine is not well known, though there is some reason to think it has some effect as a factor of the proteid quotient. As regards peptonuria, he calls attention to the fact that greater exactness should be observed in nomenclature. Cases of albumosuria should be reported as such and not as cases of peptonuria or propeptonuria, as has been done in the past. The term peptone should be reserved for those proteid products of proteolysis, which are not precipitated by saturation of the liquid containing them with ammonium sulphate.

158. **Spinal Osteo-Arthritis.**—Goldthwait reports ten cases of spinal osteo-arthritis, and points out the difference between it and rheumatoid arthritis, also its general clinical pathology.

159. **Palmar Abscesses.**—Brooks recommends a new method of treating palmar abscess by opening up a triangular flap along the natural lines of the palmar surface, forming a sort of open pouch of the palmar bursa. This affords easy exploration of the whole area of the palm, and cleaning out of any pockets of pus. After granulations have appeared the packing is no longer used, and the skin flaps are folded back and a dry dressing applied.

FOREIGN.

British Medical Journal, July 29.

Operative Treatment of Various Internal Derangements of Knee-Joint. W. J. WALSHAM.—In this article the author discusses the diagnosis and operative treatment of the internal derangements of the knee-joint, including loose bodies, detachment and displacement of the semilunar cartilages, enlargement with nipping of hypertrophied synovial fringes and elongation of the ligamentum patellæ. All these conditions have somewhat similar symptoms, synovial effusion, weakness of joint, limitation of flexion and extension, pain sudden and severe, and sometimes a sensation of something slipping in and around the joint. If a loose body is the cause of the trouble it can be felt, as a rule, to slip in and about the joint, not only by the surgeon, but by the patient himself. Still, once in a while there are difficulties, and Walsham reports a case where exploration was required. The diagnosis between a detached semilunar cartilage and a hypertrophied fringe is sometimes difficult. The sign stated in text-books of a semilunar cartilage, that is, locking of the joint and sudden projection of the cartilage, is, according to Walsham, not common. He trusts more to a peculiar creaking or sudden click or snap over the inner portion of the joint, combined with a partial locking and some limitation of movement, and perhaps some slight swelling and pain. The cause of the snap is flying back of the flexed cartilage on flexion of the joint. The signs of a hypertrophied synovial fringe are very similar, but there is not, as a rule, locking of the joint, or much limitation of movement, and the fringe may frequently be felt to roll like a soft pad under the finger when applied over the line of articulation. The disability, however, is often equally great, but it will be found that the pain occurs only when the joint is semiflexed with some slight lateral twisting of the tibia or femur. Elongation of the ligamentum patellæ is less common, but the symptoms are similar. The loose patella, slipping, sometimes, over the external condyle, allows the patient to fall. When operations are required for these conditions, the author calls attention to the five following points: The thorough preparation of the patient some time before the operation and complete asepticism of the skin, the knee-joint requiring special attention in this regard; arrest of all hemorrhage before the capsule is opened and thorough cleansing of the joint after the operation, from all clots, with warm, mild antiseptic solution; accurate suture of the synovial membrane and capsule, for which he prefers fine strands of kangaroo tail tendon; absolute rest on a well-fitting back splint till the skin wound is soundly healed, firm pressure being applied to prevent oozing; early passive movement and massage, usually beginning on the fourteenth day, and the patient being up and walking about a week later. As regards elongation of the patella, he thinks it is better to transplant the tubercle of the tibia the required distance downward than to attempt to divide and shorten the ligament.

Effective Treatment of Vesical Hemorrhage When Caused by Papillomatous Growths. HERBERT T. HERRING.—The author's method is to use injections of 4 ounces of warm water (99F.), commencing with the addition of .5 dram of a standard solution of nitrate of silver, one grain to the dram

of distilled water, and increasing the strength every day or two till sometimes 2 drams have been added. This treatment at the start may occasionally increase the hemorrhage, but after several applications it decreases and finally disappears. Thorough antiseptic precautions as to instruments and the parts are required. He reports twelve cases.

Note on Blood in Case of Beri-Beri. F. W. MOTT and W. B. HALLIBURTON.—This paper gives the results of experiments made with the blood obtained from a case of beri-beri, as to its effect on blood pressure, experimentally injected in cats, and is illustrated by plethysmographic and manometric tracings. The effect seemed to be more pronounced than that obtained by cholin injection obtained from the cerebrospinal fluid of paretics. Attempt was made to obtain a chemical analysis and determine the presence of cholin, but it was not entirely satisfactory.

Treatment of Impermeable Stricture of Urethra by Excision of Strictured Segment and Suture of Divided Ends. EDWARD DEANESLY.—The author recommends, instead of Wheelhouse's operation for impermeable urethral stricture, the complete excision of the segment involved, and bringing together and suturing the normal calibered, healthy ends which are left, as is done in end-to-end union of the bowel. He reports a case where this was carried out without difficulty. He thinks that there are few cases of stricture which can not be treated in this way.

The Mechanical Factors in Surgery. C. HAMILTON WHITEFORD.—Attention is here called to certain facts which the author has named, for want of a better term, "The Mechanical Factors in Surgery." In the ununited fractures of long bones it will frequently be found that a piece of muscle or splinter of bone has interposed itself between the ununited ends. The mechanical obstruction of respiration in anesthesia, as by growths at the base of the tongue and the valve-like action of the lips, is often overlooked. In the treatment of ulcers we often see lint spread with ointment extending over a margin of healthy skin, instead of having it accurately cut to fit the ulcer, which is bad practice. We see also the use of permanent buried silk sutures which frequently refuse to remain permanently buried, and the illogical use of chemical solutions, such as carbolic acid and corrosive sublimate in the irrigating of wounds, instead of the strictly physiologic salt solution. Lastly, he mentions the bad effect of strangulated hernia involving only the omentum, by producing kinking of the intestines. Another factor in peritonitis, not mentioned in text-books, is the loss of fluid by diarrhea and vomiting, causing heart failure, which would be remedied by large intravenous injections of hot normal salt solutions.

An Inoperable Case of Epithelioma of Larynx and Neck Treated with Formalin Injections. J. D. MCFEELY.—This is a report of a case of inoperable malignant growth treated by formalin injections with apparent good results for a time, but the patient finally died, and, at the necropsy, it was found that the tumor occupied the entire left side of the neck from near the jaw to the clavicle and sternum, and it was with great difficulty separated from the deep muscles. The death was caused by asphyxia due to filling of the tracheal tube with fluid, from the breaking down of the tumor, which was found to be an epithelioma of the larynx, starting from the aryepiglottic fold. The author ends his paper with the following conclusions:

1. Up to half a dram of pure formalin can be injected into the body without producing toxic symptoms.

2. Although a powerful styptic, it does not seem so liable as other stypties to produce clotting or embolism.

3. It is probably as safe to use formalin undiluted as diluted with water.

4. When used undiluted it seems to produce an anesthetic effect more quickly.

5. Unlike most other powerful antiseptics or irritants, it does not stimulate, but retards cell multiplication or growth in malignant tumors.

In conclusion one may hazard the opinion that formalin, being such a powerful antiseptic and exercising, as it undoubtedly does, such destructive influence on all low forms of organic life, if any of the neoplasms or malignant growths owe their malignancy, as some believe, to any form of organism, not only palliative but also curative effects may reasonably be expected to follow its judicious application.

Lancet, July 29.

Influence of Heredity on Drink Habit. G. SIMS WOODHEAD.—The point in Woodhead's address is mainly a criticism of the views maintained by Archdall Reed as to intemperance being a useful factor in evolution, and the establishment of national and racial alcoholic immunity.

Practical Aspects of Dorsal Percussion and in Particular of Percussion of the Spine. WILLIAM EWART.—It is not possible to abstract this article, as it covers the subject at considerable length, and is very detailed, but we mention it here for reference, as it treats very thoroughly of a matter that has not so far been extensively discussed in our text-books on diagnosis. The diagrams are also very instructive.

Dermatitis Exfoliativa Neonatorum or Ritter's Disease. KEDARNATH DAS.—This article reports briefly a case of Ritter's disease, and gives a description of the affection, largely taken from Elliott.

Case of Recklinghausen's Disease Complicated with a Sarcomatous Growth Involving the Brachial Plexus. H. D. ROLLESTON.—The case here reported in detail with necropsy is of interest. The author considers the disease as a congenital hyperplasia and tumor formation in the mesoblast at its junction with the epiblast, that is, in the skin and nerves. It appears probable in this case that the growth was at first an innocent neuroma, becoming ultimately a sarcoma similar to the sarcomatous development occasionally observed in other congenital defects, such as pigmented moles.

Practitioner (London), August.

Injuries to Peripheral Nerves. VICTOR HORSLEY.—Beginning his lecture with the statement that nerve injury without irritation causes atrophy and we only have trophic changes other than atrophy with an irritative lesion, Horsley passes on to the statement of the recuperative power of nerves and shows that, according to Kennedy's observations, the same changes take place when a nerve is simply bruised as when it is cut, that is, that regeneration occurs by the growing outward of the axis cylinder of the central portion of the nerve. He has himself seen 1¼ inches bridged over in this way, but the ordinary course would be to suture cut ends, and, if this is not possible, insert grafts. He expresses the opinion, a little at variance with that held by some authors, that direct conduction may take place through the graft or suture. As regards prognosis of nerve injury, contusion or otherwise, he thinks it is generally favorable if properly treated. In the conclusion of his paper he speaks of the question of the hysteric or neurasthenic traumatic neuroses and their diagnosis.

Various Aspects of Open Air Treatment of Phthisis. ALBERT HILLIER.—This article discusses the importance of pure air for consumptives, and shows that this is the first consideration, everything else is secondary.

Australasian Medical Gazette (Sydney, N. S. W.), June 20.

Immediate and Ultimate Treatment of the Inebriate. F. NORTON MANNING.—The author advises the immediate and total cutting off of all alcoholics in the treatment of inebriety. He condemns chloral given alone for the insomnia, but advises it combined with the bromids in moderate doses. The one important matter should be that the dose of the bromids should not be too small and of the chloral not too large. It is not necessary to give more than a few large doses or to continue active treatment beyond forty-eight hours, and it is always advisable to watch the urine and administer diuretics when it is scanty or loaded, as is often the case. As regards the ultimate treatment of inebriates, he criticizes palatial asylums or retreats, and thinks that their seclusion should be compulsory and a certain amount of work enforced. He thinks the treatment along what has been called, not inaptly, the "Calvinistic method," is the best, and that drunkenness is not altogether so much of a disease and so little of a vice as some have held.

An Outbreak of Dermatitis Exfoliativa Neonatorum. WALTER SPENCER.—This author describes an epidemic of Ritter's disease occurring in a Sydney institution. Twenty-five cases are reported with five deaths. Two patients were born with the disease. The eldest case attacked was 3½ years old. He thinks that the prognosis, in untainted, healthy infants treated antiseptically under careful supervision, is good. In

infants with bad heredity, constitutional dyscrasia or concurrent ailments, the preliminary eruption is apt to be fatal. His treatment was permanent application of lotio zinci carb. combined in the cases of minor exfoliation with lotio nig. āā. General treatment was seldom needed except in cases where syphilitic taint existed. These responded well to mercurials.

Annales de l'Institut Pasteur (Paris), April.

Pathogenic Sarcina. LOEWENBERG.—In only one out of 1000 cases of nasal troubles examined, a fetid discharge from the nose, which had persisted for years, with symptoms differing from those of ozena, proved to be exclusively caused by a kind of sarcina which was found in enormous numbers in the secretions. It was extremely pathogenic for rabbits, guinea-pigs and white mice, producing intense peritonitis in the former. As the microbes vanished under appropriate treatment the patient was permanently cured.

Bulletin d' Electrotherapie, June.

Pathogenesis of Contractions. GILLES.—The hypothesis advanced in this communication is that peripheral contractions are the result of stimulation of healthy centers by some continuous, involuntary peripheral action; that spinal contractions are the result of the pathologic reaction to normal excitations of injured or defectively connected centers; that cerebral contractions, on the other hand, are essentially peripheral and connected with the appearance of tardy secondary lesions. This theory harmonizes with certain of Grasset's and Van Gehuchten's later propositions.

Gazette Medicale Belge (Liege), June 8.

Mangoldt's Method of Epidermic Grafting.—The skin is scraped with a razor and the scraps thus obtained are scattered over the defect to be covered, in time forming a covering as perfect as that obtained with a Thiersch flap. Pispoli has found that raking the surface with pins arranged like Wecker's instrument for tattooing, twenty pins in a coil of parchment paper, superior to the razor, and reports a number of cases in which defects 8 by 5 cm., or 8 by 9, healed over completely in two weeks, after thus sowing them with epithelial substance, and covering with tin-foil or gutta-percha to prevent drying. The fifth day the surface is irrigated with salt solution and boricated vaselin applied the tenth day. (See JOURNAL, July 29, par. 60, p. 275.)

Journal des Sciences Medicales de Lille, July 15.

Examining Old Pus for Actinomycetes. G. LEMIERE.—The significant fact is reported that typical specimens of actinomycetes were found in the pus of a cow affected with actinomycosis, after it had dried to a powder seven years later. The bottle containing it had stood on a dry shelf in the laboratory, exposed to sun and daylight. No cultures could be developed, but the appearance of the micro-organism suggested that merely a specially favorable soil was needed.

Presse Medicale (Paris), June and July.

The Leucocyte Balance. LEREDDE.—"Closer study of the proportions between the numbers of the various types of leucocytes may prove a valuable assistance in the diagnosis and prognosis of many diseases, and also in therapeutics, as the balance can be regulated by medication and leucocytosis promoted." The proportions in the normal adult, Leredde has established to be 60 per cent. for the polynuclear, and 1 to 2 per cent. for the eosinophiles; in the child, 40 to 50 per cent. of the former and 5 per cent. of the latter. In the aged the polynuclear increase to 70 per cent. The physiologic balance in the adult seems to be constant, with slight variations during fasting or digestion, pregnancy, etc. The polynuclear cells increase rapidly in diphtheria and certain cutaneous affections. Mononucleosis is peculiarly frequent and pronounced in acute and chronic leucemia, and is an important aid in differentiating leucemic from tuberculous glandular swellings, as polynucleosis prevails in the latter. Increase in the number of eosinophiles indicates a reaction on the part of the bone marrow; increase of mononuclear cells indicates glandular alterations.

Entero-Anastomosis by Implantation. E. SCHWARTZ.—An elderly woman with an incarcerated femoral hernia and consecutive crural anus, was operated on five months later and the intestine cut off above each end of the V. The long-disused peripheral end, no larger than a pencil, was implanted in a lengthwise incision in the dilated central end. Notwithstanding the extreme disproportion between the sizes of the portions united, normal conditions were promptly restored.

Acute Appendicitis in the Tuberculous. F. CATHELIN.—Several observations are described to emphasize the fact that tuberculous lesions of any kind reduce the power of resistance, and hence surgical intervention is indicated with special urgency in case of acute appendicitis occurring in a person with a tuberculous predisposition or local lesions.

Epidemic of Icterus in Children. FRINGUET.—Seven children out of thirty attending the same school from various villages were affected with infectious icterus, distinguished by the slow pulse, 55 in one case—a boy of 12. The icterus was the last of the symptoms of the benign infection to subside.

Cold Baths in Delirium Tremens. M. LETULLE.—Cold baths are indorsed as the most effective and harmless means of reducing the temperature and calming the delirium, with three observations reported. The patient is placed in a bath at 18 C. for ten to fifteen minutes every two or three hours, until the delirium and fever have definitely subsided.

Gangrenous Mammitis. ROGER AND GARNIER.—A young woman was attacked with scarlet fever and mammitis a week after normal delivery of a child, who died in two days without discoverable cause. The scarlet fever threatened to be severe, but yielded to cold baths. The mammitis in the left breast became gangrenous, but healed after dressings of oxygenated water were applied. Gangrenous mammitis is of rare occurrence in women, but is more frequently observed in milch animals. In this case a peculiar small coccus was isolated, producing aerobic and anaerobic cultures resembling grains of sand, and in the first cultures distinguished by a fetid odor. It is pathogenic for animals, and does not liquefy gelatin.

Chyle Cyst in the Mesentery. LETULLE.—A child of 7 years was operated on for supposed tuberculous peritonitis, and the symptoms found to proceed from a cyst in the mesentery, containing chyle. The structure of the walls of the cyst indicated a congenital malformation of the excretory lymphatic system connected with the small intestine, with a continuous endothelial layer over the inner surface of the cyst.

Etiology and Treatment of Tuberculosis of Iris. F. LAGRANGE.—According to the writer's research and experimentation, tuberculosis of the eye is frequently local and clinically primary. He also establishes the possibility and danger of generalized infection from the local lesion, and suggests the necessity of enucleating the eye if sight has been lost.

Cancer of the Ampulla of Vater. H. DOMINICI.—This is a report of an observation of a neoplasm developed at the expense of the excretory biliary and pancreatic passages, as opposed to the cancer of the head of the pancreas derived from the pancreatic acini: in one word, a cylinder-celled primary epithelioma of the Vater region, of excretory origin.

Revue Generale d'Ophthalmologie (Paris), June 30.

Essential Hemeralopia Cured by Ingestion of Sheep's Liver. TRANTAS.—Hippocrates used to treat hemeralopia by the administration of beef's liver, and this has been tried in modern times, but so ineffectually that the manuals of ophthalmology no longer mention it. Trantas reports a series of ten cases all cured after the administration of 200 grams a day of cooked sheep's liver, which can not be ascribed to mere chance. In one case of twelve years' standing, with alcoholic antecedents, the patient was relieved of his infirmity in a few days. Light cases are cured almost at once, and the hemeralopia accompanying a hepatic affection is cured even when the latter is incurable, such as an inoperable carcinoma.

Revue Hebd. de Laryngologie, etc. (Bordeaux), June 3.

Double Thyrotomy, Double Tracheotomy for Angioma of Larynx. GORIS.—The angioma located in the left wall of the ventricle in a boy of 4, was successfully removed, but the upward displacement of the ventricular band persisted, requiring a repetition of the operation and resection of the band with an elliptic flap of the mucosa, before respiration became normal.

Semaine Medicale (Paris), July 15.

Hemianesthesia of Cerebral Origin. DEJERINE.—The point that serves to differentiate cerebral from hysteric hemianesthesia are the parallelism between the other cerebral manifestations and the anesthesia: the member most paralyzed is likewise the most anesthetic. In hemiplegia complicated with

hemianesthesia, the disturbances in the sensibility are most marked in the upper member, in the trunk and face, and they are most pronounced the farther from the root of the member. This fact has never been noted before. The anesthesia never occurs in zones as in hysteria; it is usually more intense in hysteria. There is also a subconscious sense that serves to protect the subjects from injury, which is an aid in differentiating hysteria, as also the fact that when the attention is diverted from a point the anesthesia at that point becomes less. The special senses almost always participate more or less in hysteric anesthesia, while the visual field, etc., is not disturbed in organic hemianesthesia. The localization of the cerebral cause, whether cortical or capsular, can not be decided by the symptoms, which are identical in each case. The hemianesthesia is particularly persistent when a lesion in the thalamus has destroyed the terminal fibers of the ribbon of Reil and the fibers of the thalamocortical neuron. It is particularly extensive when, with an intact thalamus, its connections with the sensory-motor corticality have been more or less destroyed. These are the only two conditions, according to Dejerine, in which a central lesion of the hemisphere can cause hemianesthesia of the general sensibility.

Berliner Klinische Wochenschrift, No. 28.

Malignant, Non-Septic Form of Endocarditis Rheumatica. M. LITTEN.—The writer adds seven new cases to the eleven he has previously published, in which malignant, fatal endocarditis without suppurative processes appeared in the course of an ordinary articular rheumatism or chorea, only distinguished by their prompt response to salicylic acid. The endocarditis proceeds with the characteristics of general infection, as in the septic form, with objective symptoms similar to those of the usual simple rheumatic variety, but the metastases are exclusively bland infarcts. A chill or cutaneous hemorrhage frequently inaugurates the affection; and weeks and months may elapse before the end. Erratic chills are characteristic: also, usually, enormous acceleration of the heart's action. The retinal hemorrhages sometimes show a white center. Transformation of a simple rheumatic form into the malignant or septic form has never been demonstrated. The affection may sometimes prove difficult to differentiate from peliosis rheumatica, morbus maculosus Werlhofii, etc.

Centralblatt f. Chirurgie (Leipsic), July 29.

Inflammatory Swellings in Lymphangiomata. TAVEL.—The inflammatory swellings that occur "in pushes" in a lymphangioma are explained by an observation reported in which the lymph truncus jugularis entered a tumor on the neck of an infant 4 months old, and pure cultures of the streptococcus were obtained from the pus. The circumstances plainly indicated that the infection must have arrived from the nose or mouth and not from the exterior. The infected portions were not accessible by simple puncture. No antiseptics were used, as Tavel is convinced that the tissues in the vicinity of an infectious focus are practically immunized from the dissemination of the bacterial toxins, and antiseptics are not required, while they are injurious and retard recovery. He never uses them even after evacuating a large osteomyelitic cavity.

Valvular Stoppage of Biliary Passages by Calculi. C. LAUENSTEIN.—Fenger and others have called attention to the occlusion of the biliary passages by stones acting as a valve, allowing the passage of bile in one direction and not in the other. Lauenstein states that nothing but such an assumption can explain the gorged condition of the gall-bladder in some cases, the bile not finding an egress, and its emptiness in others, the bile prevented from entering by the reverse valve action of the stones. The influence of this condition is harmful, as the gall-bladder no longer answers its purpose as a reservoir. There is a constant, instead of the normal intermittent flow of bile into the intestine. The sphincter in the ampulla of Vater must be constantly gaping to allow the passage of the continuous stream, and this favors the infection of the biliary passages from the duodenum.

Deutsche Medicinische Wochenschrift (Berlin), July 27.

Is Wood Sorrel Poisonous? L. LEWIN.—Referring to Eichhorst's communication (see JOURNAL, August 5, p. 346), Lewin sifts the evidence and asserts that the possibility of intoxication from wood sorrel is absolutely improbable and unproven.

Case of Diffuse Sclerodermia of Lower Limbs With Well-Defined Spinal-Segmentary Limitations. L. BRUNS.—The sclerodermia commenced in the feet and extended symmetrically on both legs until it reached and stopped at the line corresponding exactly, both front and rear and on both sides, to the upper limit of the cutaneous region ascribed to the first lumbar segment as depicted in Head's diagrams (*Brain*, 1893), etc. Bruns distinguishes, in the disease, first a stadium hyperemicum or vasoparalyticum; then a stadium elevatum, possibly also edematosum, and a third, the stadium atrophicum.

Universal Staining Method for Blood Preparations. L. MICHAELIS.—By this new method one stain simultaneously brings out on one preparation the nuclei, neutrophilous, eosinophilous and basophilous granulations and the blood plates. There are two solutions, each an aqueous, 1 per cent. solution of methylene blue or eosin. They are combined with alcohol and acetone as follows: Solution A (methylene blue), 20.0 and absolute alcohol, 20.0. Solution B (eosin), 12.0; acetone (Sp. 56 to 58), 28.9. The preparation is fixed in alcohol or by the Ehrlich method, from one-half hour to twenty-four hours. One c.c. each of A and B are poured into a block dish and covered. The preparation is dipped into this mixture, as Ziemann recommends for his method. It first turns blue and then red, and the proper length of time for the stain is the moment when the red stain becomes evident, which may be in from one-half to ten minutes.

Muenchener Medicinische Wochenschrift, July 11 and 25.

Phosphorus Necrosis. L. v. STUBENRAUCH.—This affection is not restricted to workers in match factories, but has occurred in bronze works, etc., where phosphorus is used. It is impossible to reproduce in guinea-pigs, rabbits or dogs, a clinical picture similar to that of human phosphorus necrosis, as Stubenrauch has established by three years of experimental research. The fumes of phosphorus have no specific irritating effect on these animals, even when the periosteum is directly exposed. The latest views are that the phosphorus alone is not responsible, but that phosphorus plus infection, causes the decay of the bone. The phosphorus only supplies the disposition, which, he asserts, is a tendency to thrombosis.

Glass Brick Walls for Operating and Work Rooms. F. KUHN.—In building an operating-room facing the east and close to the street, Kuhn employed the Falconnier glass bricks, which are small cubes or diamonds of glass filled with air, and fitted and mortared together like ordinary bricks. He found that no windows were required, as the light penetrates sufficiently, although it is absolutely impossible to see in or through them, even with a light inside at night. A skylight above supplies the direct light, which is reflected and multiplied by the glass walls, without glare. They also modify the temperature of the room remarkably, modifying both heat and cold, and also deadening the noises without. Still another advantage is that these walls do not frost over in winter, and that they look clean, both out and inside, and can be easily kept aseptic inside, while they are very ornamental.

"Sore Mouth" in Children and Its Relation to "Foot and Mouth Disease." R. POTT.—Reviewing his 553 cases of stomatitis in children during the last twenty years, Pott notes that only 53 under 6 months were affected, and these with exclusively catarrhal manifestations, while from 6 months to 2 years, or during the teething period, the number attained 290; from 2 to 5 years, 161, and from over 5, 49. He considers abrasion of the gums of infants in attempts to clean their mouths, a frequent source of inflammation, also the congestion induced by teething and the injurious custom of allowing children to chew and suck on rubber rings, etc., which rubs off the epithelium and favors fermentative and putrefactive processes in the mouth. He considers stomatitis apthosa or ulcerosa as a primary local infection, and calls attention to the fact that uncooked butter or milk from animals affected with foot and mouth disease is capable of producing an analogous disease in man, and especially in children. Boiling the milk and cooking the butter absolutely prevents this. It has been established, however, that the identical affection may appear in children when the possibility of an infection must be excluded unless disseminated long distances through the air. He has observed seven instances of family epidemics.

After-Treatment of Sprained Joints. K. HASEBROEK.—Patients often complain of a weakness in a knee, wrist or ankle that has been badly sprained. It gives way when least expected, and may lead to permanent functional disturbances. Hasebroek urges trial of a leather support that he has found extremely useful in supporting the joint and imparting strength and confidence. For the wrist, a leather cuff, made over a plaster cast, and laced snugly, proves an ideal support. A similar contrivance for the knee leaves the cap of the knee bare, but is snugly laced above and below, the two parts connected by a hinge extending almost the entire width of both. For the ankle he uses Marcinovski's simple appliance for flatfoot, which answers the purpose most admirably.

Habitual Dislocation of Shoulder. F. KRUMM.—A healthy man of 49 dislocated his right shoulder and, during the following seven years, the luxation re-occurred again and again, thirty-seven times in all, requiring narcosis for each reduction, and preventing all work. Krumm restored the shoulder to normal function by taking up an equatorial fold in the capsule with a lacing suture from the depths of the axillary cavity forward, thus substituting a stout ridge in place of the stretched and weakened portion of the capsule wall, and making it fit the joint. He insists on the necessity of opening up the capsule first to examine the joint; drainage is not required, but is advisable for the extracapsular wound. Smooth and permanent recovery followed. Over a year has since elapsed.

Gazetta degli Ospedale e delle Clinische (Milan), July 16.

The Vagus Protects the Heart. A. STEFANI.—Years of special study have convinced Stefani that the inhibiting innervation of the heart is a contrivance to protect it against the three chief causes of exhaustion: increased arterial pressure, dyspnea and high temperature. Danger from increased arterial pressure is averted as the vagus center is directly stimulated by the increase, and probably also indirectly through the depressor nerve. As the vagus center is stimulated the heart-beat is retarded, which in turn reduces the arterial pressure. In respect to dyspnea, the blood in this condition is incapable of restoring strength to exhausted muscles, but the stimulation of the vagus center by the dyspneic blood retards the heart and in this way reduces the amount of oxygen required by the heart, which can thus longer resist the deficiency of oxygen. Elevation of temperature has also a stimulating influence on the vagus center, as can be interestingly studied by irrigating the exposed medulla alternately with hot and cold physiologic solutions. The effect of temperature on the bulbar heart inhibiting center explains why a high temperature with a moderate pulse offers a better prognosis than a lower temperature with a more rapid pulse. As long as the inhibiting innervation is functioning well, the heart has little to fear from the high temperature of the blood. The vagus, he concludes, is the trophic nerve of the heart, increasing diastole, and causing the assimilative processes to preponderate over the disassimilative.

Tuberculosis and Pregnancy. E. CIOFFI.—Maragliano has stated that out of 188 cases of circumscribed tuberculosis, 34 died within twenty-one months, that is, 18 per cent., while the percentage of deaths among those who had passed through a pregnancy amounted to 94 per cent. These statistics are confirmed by Cioffi's experience of the excessive mortality among tuberculous parturients. He asserts that the persistence of fever and grave adynamia after childbirth, when other causes of infection are excluded, should suggest the idea of possible tuberculous lesions. In examining a tuberculous female it is well to bear in mind that the first manifestations of the disease may have coincided with a pregnancy. He also reaffirms Maragliano's statements (see JOURNAL, xxxii, p. 1253), that the pregnancy must be interrupted where tuberculosis is certain or suspected.

Il Policlinico, May 30.

Resection of the Cervical and Abdominal Sympathetic. RUGGI.—Ten cases of extirpation of the cervical sympathetic for glaucoma are reported, bilateral in four. The tolerance is remarkable, and also the rapid disappearance of the violent peribulbar pains. Ruggi recommends extirpation of the sympathetic in abdominal operations—the ganglia forming the plexus spermaticus, uterinus and ovarialis—as there are sensory spinal fibers in these ganglia which may keep up the pains after the corresponding organs have been removed. He even considers that in many cases of hyperesthesia and erethism this intervention alone might be sufficiently effectual.

Nuova Rivista Clinico-Therapeutica (Naples), No. 5.

Influence of Bandaging the Extremities on Albuminuria and on the Arterial Pressure. BRUSCHINI.—Winding the lower extremities with elastic webbing for two to three hours has always produced a transient improvement in severe cases of albuminuria and permanently cured light cases—an extensive experience at De Renzi's clinic. The amount of urine at first diminishes but later returns to one-third above normal. The percentage of albumin in the urine gradually decreases during the bandaging and after, but returns to the previous proportion in twenty-four hours. The arterial pressure is materially increased during the bandaged period, falling later even below normal. The amount of albumin eliminated does not depend on the variations in the vascular pressure, but continues diminished after the bandage has been removed. This may be explained by the assumption that the rapid increase in arterial pressure regulates the circulation in the kidneys and acts on the renal innervation, which favorable effect lasts after the increase in the blood-pressure has subsided.

Societies.

Southern Minnesota Medical Association.—This Association held its annual meeting at Owatonna; secretary, W. T. Adams, Elgin. The next meeting will be at Winona.

Rock River Valley Medical Association.—The following officers were elected at the recent meeting of this Association, held in Dixon, Ill.: President, A. E. McBride of Sterling; vice-president, G. R. Proctor of Coleta; secretary, A. L. Miller of Dixon.

Huntington County Medical Association.—At the recent session of this Association, election of officers resulted as follows: President, H. C. Gemmell; secretary and treasurer, Ervin Wright. The next regular meeting will occur October 10, in Huntington., Ind.

Southwest Minnesota Medical Society.—The summer meeting of this society was held at Adrian, Minn., recently. The newly-elected president is G. R. Curran of Worthington; secretary and treasurer, H. D. Jenckes of Jasper. The January session will be held at Worthington.

Ontario Medical Association.—At the recent meeting of this Association the following officers were elected for 1899-1900, the Association to meet in Toronto again in 1900: President, J. E. Graham, Toronto—since deceased; first vice-president, Adam H. Wright, Toronto; second vice-president, M. I. Beeman, Newburgh, Ont.; third vice-president, R. J. Trimble, Queenston, Ont.; fourth vice-president, A. F. McKenzie, Monckton, Ont.; secretary, Harold C. Parsons, Toronto; assistant secretary, E. Hurlburt Stafford, Toronto; treasurer, George H. Carveth, Toronto.

Ontario Medical Council.—The thirty-fourth annual session of the Medical Council of this province met in Toronto July 4 and transacted business for the six succeeding days. The following is the list of officers for 1899-1900: President, W. F. Roome, M.P., London, Ont.; vice-president, William Britton, Toronto; registrar, R. A. Pyne, Toronto; treasurer, Wilberforce Aikins, Toronto. The fall examinations were fixed for the third Tuesday in November, 1899, at the college in Toronto, and those at the City Hall, Kingston, Ont., on the second Tuesday in May, 1900.

British Medical Association.

Annual Meeting, Portsmouth, Eng., August, 1899.

(From advance sheets of British Medical Journal.)

PLACE OF PHARMACOLOGY IN MEDICAL CURRICULUM.

DR. J. B. BRADBURY, in his remarks, said in part: For some time my mind has been exercised as to the proper place of pharmacology in the medical curriculum. So far as I

can make out there is a growing tendency for medical corporations—if we except the universities—to require less and less knowledge of the natural history, properties, composition, and action of drugs, from candidates for their diplomas; a condition of things much to be regretted. Personally I have no wish to revert to the state of affairs when candidates were expected to have a minute knowledge of the distinctions between the different species of senna, and of cinchona, etc.; but the danger now is that they may not be able to recognize senna at all, or to know the ingredients and doses of the most important pharmacopeial preparations. The consequence is, when settled in practice, that they are tempted to prescribe ready-made tabloids, elixirs, etc., the purity and the precise dose of the ingredients of which have no official sanction. Far be it from me to speak too disparagingly of these products of the chemist's ingenuity; in many cases they are most useful and valuable on account of their easy portability; but in other cases the therapeutic results would be more satisfactory if B. P. preparations were issued instead. And here may I say one word in praise of the new "pharmacopeia?" It is a model of what such a work would be—accurate, learned, and not overburdened with details. I am surprised, when I have to consult it, at the extent and variety of the information which it contains. The contents of such a book, so far as bear directly or indirectly on prescribing, should be thoroughly mastered by all medical students, and I would make such knowledge a compulsory part of the curriculum. Think for a moment of what is required of a medical man once started in practice. A considerable part of his work is writing prescriptions for his patients, and yet in respect of the knowledge of drugs and their actions his education is often most imperfect.

This brings me to the subject of pharmacology, or the action of drugs on the body in health and in disease. Is it too much to expect those who are daily to prescribe remedies to be acquainted with what is known of their actions? Certainly not. Well, then, how can this best be taught, and where in the student's course shall it come in? I think after anatomy and physiology, and alongside of pathology, I would make the first part of the final examination pathology and pharmacology—the sciences dealing respectively with disease and its treatment—and then the student should at the next stage be ready to apply the principles thus acquired to actual practice in connection with his clinical medicine, surgery, and midwifery.

The more intimately a student knows the action of the drugs he prescribes, the greater will be his success in treatment, and it is much to be regretted that some of the examining boards require a student to acquire this knowledge only in a haphazard way, or at a premature stage of his course. He can not appreciate physiologic action until he is possessed of the elements at least of physiology. On the other hand, he can not appreciate the importance of judicious prescribing, unless he has learned the nature and properties of the agents prescribed. These two considerations seem to me decisive as to the exact place in the curriculum at which pharmacology should be introduced. I believe I am correct in stating that every German university demands of its students a knowledge of pharmacology, and that the subject is regularly taught in these universities. It has been said that the medical student is already overburdened with subjects. That may be, but lighten some of the other less necessary subjects, and encourage him to give more attention to knowledge which when in practice he will daily and hourly be called on to use.

UNUNITED FRACTURE IN CHILDHOOD.

EDMUND OWEN, F.R.C.S., considered two questions: 1. Why is non-union after fracture of the tibia and fibula in children of comparatively frequent occurrence? 2. Why does its treatment by operation so often end in amputation? He said:

It is because of the frequency with which the tibia and fibula are involved in pseudarthrosis in children, that I suggest we should confine our remarks to ununited fracture in the leg bones, though there is no reason why the condition as affecting other long bones, notably the clavicle, humerus, and femur, should not be alluded to for purposes of illustration. I have met with non-union after fracture of the clavicle in a child; but, after all, the defect did not prove a very serious one.

The humerus is rarely the seat of pseudarthrosis in children, though in the adult it is often involved. So also with the shaft of the femur; it is frequently affected in adult life but rarely in children, and the only case of femoral pseudarthrosis which I have met with in a child recovered after a long rest, without a cutting operation.

The two great differences between ununited fracture in the child and the adult are these, that in the child the false joint is generally in the leg, and that operative treatment is almost invariably futile.

Comparatively little attention has hitherto been directed to this subject, chiefly for the reason, I suspect, that the surgeons who had to deal with such cases could not publish a satisfactory result to their operative interference. Though why surgeons should publish accounts only of their successful cases I cannot understand, such practice being equally misleading and immoral.

So far as I know, the first essay directing special attention to the subject of ununited fracture in children was by Sir James Paget in *Studies from Old Case-books*, published in 1891. In it he gives brief records of three cases:

The first was that of an infant who broke her tibia and fibula from very slight violence; when she was 15 years old she was glad to have the leg amputated.

The second case was that of a baby who fell and broke its leg below the middle. "The fracture was at once well set, and every care was taken of it; the union gave way, and consolidation never took place, though scraping, excision, wiring, everything" were tried. The limb was eventually amputated.

In the third case a "bonesetter" broke the bent leg of a child, and the fracture did not repair in spite of a resort to resection and wiring, and in due course Dr. Snoweroft amputated the leg.

In the cases on which I have operated there was apparently no local impediment to the consolidation; the broken ends of the tibia forming a salient anterior angle at the junction of the middle and lower third of the leg, were in close apposition. No tendon or sequestrum interfered with them, and they were surrounded and connected by a considerable amount of fibrous tissue, which, unfortunately, failed to attain the higher development into bone.

It would be as interesting, as it is impossible, to know what is the exact state of the bone at the time of the fracture in those cases in which pseudarthrosis ensues. Does the fracture occur because there is some peculiar atrophic condition of the tibia and fibula at that spot? If this be the case, the failure of operation to remedy the defect is at once explained. Will the X-rays eventually help in the elucidation of this mysterious and interesting matter?

In some cases of pseudarthrosis in children the fracture occurs in utero or at the time of birth, but more often at a later period, and in many cases as the result of slight violence. In such circumstances, therefore, there might be but little to attract the attention of the mother or the surgeon to the injured leg-bone, and so the fracture might be neither recognized nor treated.

In the adult the chief cause of non-union after fracture is want of rest, and possibly this is one of the causes of the frequent occurrence of pseudarthrosis in the child's broken tibia; the fracture is not detected and not treated, and the child is carried about, the leg hanging over the mother's arm. Thus the weight of the foot constantly draws the lower end of the tibia backward, and the salient angle at the fracture is directed forward.

In the adult the humerus and femur are bones whose shafts are most often the seat of ununited fracture, and with them resection of the pseudarthrosis and wiring the freshened ends of the bone always results in consolidation. But in children non-union most often occurs in the tibia and fibula, and, so far as my experience goes, fibrous union is the best result that follows operative treatment. But as fibrous union of a fracture of the tibia and fibula is of no practical value, the operative treatment very often ends in amputation.

He then quoted Packard of Denver, and D'Arey Power's table of 72 cases of ununited fracture of the long bones in children, of which 45 occurred in the tibia and fibula, giving a percentage of 62.5, and said:

As to the cause of the almost invariable failure of operative measures I regret to say that I have nothing definite to offer.

It has been suggested that previous to its being fractured the bone may have been the seat of an obscure affection somewhat allied to mollities ossium. All I can say is that, cutting down upon the seat of the fracture there was no remarkable softness of the bone. In the instances, however, in which I have operated long after the original injury there was an atrophic condition of the lower fragment of the tibia. The child's foot had been well enough developed, but the fragment between the ankle and the fracture has been poor and spindle-like, as in a case of infantile paralysis. Why should one bone be affected by any form of mollities ossium without other bones being affected, mollities being a general disease?

As to theories—what is wanted is a theory which shall at the same time explain the easy fracture of the bone from some slight injury; the absence of bony union whether the fracture be well treated or not; and the complete failure of those operative measures which can be depended upon for success in the treatment of pseudarthrosis in the adult.

The only theory which, so far as I can see, is able to answer all these requirements is that which invokes the influence of the trophic nerves. I am, therefore, going to suggest that leading up to the fracture there is some subtle disturbance in the anterior cornu of the grey crescent of the cord, inhibiting the due nutrition of the bone, and rendering it weak and friable, subsequently interfering with repair, and eventually frustrating the best endeavors of the operating surgeon. I would thus ally the condition to the molecular disturbance of the crescent which entails infantile paralysis, but one which expends its influence upon bone rather than muscle.

It would be interesting to know if the forcible straightening of bent bones—a very common operation in these times—has in many instances been followed not merely by delayed union, but by pseudarthrosis. Such an occurrence would, indeed, be a calamity.

In a large proportion of the cases the fracture has been the result of very slight violence. Is it not fair to assume that there was some antecedent weakness in that part of the bone? Admitting the pre-existence of such local weakness, it will not come as a matter of surprise that operative treatment ends in disappointment.

I see no reason why one should endeavor to attribute the fracture to any constitutional dyscrasia, such as rickets, syphilis, or tuberculosis. It is probable that in a large proportion of the cases the general treatment has been in such directions, but always with the same negative result.

In the heading of this paper I ask the question why the operative treatment of ununited fracture of the tibia is so often followed by amputation; and, in order to increase the chance of some satisfactory conclusion being arrived at, I will throw out these definite suggestions for discussion:

1. Why do the tibia and fibula of a child break as he is, for instance, pushing a chair along the carpet, whilst every other bone in his body is apparently sound?

2. Why, if the fracture is promptly discovered and properly treated, does it sometimes fail to consolidate?

3. Whether the fracture has been appropriately treated or not, how is it that the operative measures which suffice to cure pseudarthrosis in the adult fail miserably in the case of the ununited fracture of the leg bones of the child?

4. Is the diaphysis of the tibia, or the lower fragment, generally ill developed in these cases? If so, does this morbid condition help to explain the failure of the operative treatment? What is the explanation of this atrophic condition?

Lastly, has any operator ever established consolidation in the ununited tibia of a child? If so, will he kindly explain how he accomplished it? For my own part, I must regretfully confess that all my best efforts in that direction have ended in complete failure.

A PLEA FOR CONSERVATIVE GYNECOLOGY.

G. GRANVILLE BANTOCK, M.D., said in part: It was an idea of the late M. Péan's that a fibroid was essentially a malignant growth that must be removed some day, and some of the younger generation seem to have adopted that view. When the life-history of the uterine fibroid comes to be written, it will be seen how erroneous that idea is. A fibroid tumor does not necessarily interfere with impregnation, the full development of the fœtus and its safe delivery, nor with the repetition of the process again and again. Fallacious arguments have been drawn from the supposed analogy between the ovarian tumor and the fibroid, and because of the improved results which have followed upon early interference in the case of the ovarian tumor, it is maintained that a like result would follow in the case of the fibroid.

But it is impossible to establish any analogy between these two diseases. Who has heard of an ovarian tumor disappearing, except by the hand of the surgeon? On the other hand, who has not heard of fibroid tumors disappearing under various conditions, of which the essential element would seem to be an interference with the nutrition of the growth, as, for example, by the natural processes of the menopause and child-bearing, or by the removal of the appendages? Who, with an experience of ten or fifteen years, has not known fibroid tumors to become arrested in their growth and all symptoms cease, if, indeed, there were any; or observed tumors of considerable size become so quiescent as to render the risk of surgical interference unjustifiable?

Again, if a woman complain of pain in the pelvis— especially in either ovarian region—as the result of an abortion, chronic uterine congestion, or follicular disease of the cervix; or if she present symptoms attributable to the minor forms of derangement of the generative apparatus, she is deemed to require the removal of the appendages; and if she should be the subject of an uncomplicated retroversion which an ill-devised and ill-adapted pessary has failed to relieve, then she must undergo an operation, either by the vaginal or the abdominal route, for fixing it in position. I have seen many examples of all these, in which I have felt it my duty to advise against operation, and I do not know of a single case in which there has been reason for regret that that advice has been acted upon, while, on the contrary, I have positive evidence of its soundness in many cases. With regard to the case of uncomplicated retroversion, I have never seen the necessity for any operation, either that senseless method of fixing the organ by the vaginal route, or the more rational method—of course, on the assumption of its necessity—by the abdominal route. It would be taking a charitable view of the matter to say that errors of diagnosis are answerable for many mistakes in practice.

It was a maxim of the late Mr. Lawson Tait, to whose initiative gynecology owes so much, and who has left the impress of his genius indelibly stamped on the face of gynecology, "When in doubt, open the abdomen." But it was very much misunderstood. Mr. Tait did not mean that the abdomen should be opened to solve a doubt as to whether there was disease or not, but to ascertain the exact nature of a diseased condition of the existence of which there could be no doubt, which is a very different thing. I know that he shrank with horror from the practice of opening the peritoneal cavity and cutting a piece out of an ovary for microscopical examination and the purpose of diagnosis.

An idea of recent origin is this, namely, that the ovary secretes a something which is of service in the economy, and that whenever it is possible, in an operation involving of necessity the removal of only a part of the generative apparatus, one or both ovaries should be left. There is not an atom of evidence to support that idea. Yet there are those who do not hesitate to found and urge the adoption of a practice on a pure and ridiculous assumption. It appears to have been assumed that because disease or loss of the thyroid gland—of whose function we know absolutely nothing definite—is sometimes followed by a certain train of symptoms, therefore the loss of the ovaries—of whose function we have definite knowledge—must be avoided because their loss will deprive the economy of something which the ovary secretes. Now the ovary was evidently devised for the purpose of perpetuating the species by providing an ova—of which each ovary contains a definite and limited supply—and for nothing else except it be to provide fees for their removal, not for their retention, and in the normal state, having discharged that function it atrophies, and like its neighbor the uterus, becomes not only a useless but a dangerous organ; for, as we only too well know, it is very liable to disease. In a very large proportion of cases disease attacks this organ long after it has served its purpose, and it seems to me rather one's duty to secure the removal of such an unsatisfactory appendage when opportunity offers

than to take steps for its retention. In my own practice I have had to remove both ovaries in a large number of cases. I have never willfully left an ovary when the uterus or its Fallopian tube has been removed; and over and over again patients, thus deprived of both these organs, have testified by word of mouth, confirmed by appearances, to a condition of good health, mental and physical, that had not been experienced for years previously, although these organs played no part in bringing about the disease which involved their removal. On the other hand, it has occurred to me to have to remove the second ovary after an interval of as many as eleven and even eighteen years. Surely the possibility of such an occurrence is a strong argument against the practice in question. Tait was much nearer the mark when he urged that the removal of the second ovary—as in the case of the appendages—should become a rule of practice, because of the frequency with which it was subsequently attacked.

(To be continued.)

Rocky Mountain Interstate Medical Association.

Salt Lake City, July 25-26, 1899.

(Concluded from p. 414.)

TREATMENT OF ACUTE CONJUNCTIVITIS.

DR. EDWARD JACKSON, Denver, called attention to the fact that under acute conjunctivitis are included, besides effects of eye strain and chemical and mechanical irritants, at least five distinct infections; and that successful treatment depends on exact diagnosis. Eye strain should always be eliminated. In all forms of infection complete cleansing of the conjunctiva at sufficiently short intervals is of greatest importance. For purulent conjunctivitis protargol is to be employed, with occasional applications of strong solutions of silver nitrate in the bad cases.

Mydriatics and cocain should not be prescribed for acute conjunctivitis, since they are more likely to do harm than good. To aid in securing cleanliness of the conjunctiva, and to limit the danger from infection, all forms of the poultice, bandage or compress should be carefully avoided.

DR. I. A. E. LYONS, Salt Lake City, has used weak solutions of cocain, 1 to 1000, or 1 to 2000, in connection with boric acid, on account of its power to lessen congestion.

POINTS IN EYE WORK.

DR. R. F. LE MOND, Denver, dwelt on the important connections between eye lesions and brain disease. He believes that in astigmatism the degenerative changes often seen in the eye are for the purpose of relieving the strain that would otherwise fall on the brain.

OCULAR PROTHESIS.

DR. G. MELVILLE BLACK, Denver, called attention to the recent important suggestions of Snellen that artificial eyes should be made of different forms. The shell heretofore universally used was designed to be worn over a shrunken eyeball, and not to properly occupy the orbit after enucleation. There is also needed a concavoconvex form of artificial eye, to be worn over a small stump; and a double convex artificial eyeball to be worn after enucleation. Artificial eyes of these latter forms are not yet obtainable in this country. He has resorted to the expedient of filling in the cavity of the ordinary shell with a preparation of wax ("Gilbert's temporary stopping)" used by dentists. This has proven very satisfactory, preventing the unsightly sinking of the artificial eye, and the accumulation of discharges and irritation of the conjunctiva by the formation of a vacuum behind it.

DR. EDWARD JACKSON thought this suggestion of great practical importance. It removes those objections to the operation of enucleation which has led to the trial of substitutes for it; such as the Mule's operation, which planned to keep a foreign body, the glass or metal sphere, permanently embedded in the tissues of the orbit.

GALL-STONES.

DR. I. B. PERKINS, Denver, found this subject of importance on account of the frequency of the occurrence of the condition, and the numerous, often obscure symptoms caused. He ascribed its greater frequency—of more than 2 to 1—in women to compression of the abdomen by dress, and a more sedentary life. The distended gall-bladder must be distinguished from floating kidney, chiefly by its fixed position and fluctuation. He reported three cases in which operation had been necessary.

In closing the wound after operation, he sewed the gall-bladder to the abdominal wall with catgut. The stitches to close the parietal wound passed entirely through the abdominal wall; and those which came opposite the opening in the gall-bladder were introduced in this way: They were passed through the abdominal wall and into the gall-bladder. Then they were made to emerge from the gall-bladder before reaching the incision in it; and carried across the incision and made to enter the walls of the gall-bladder on the other side of the incision, and finally brought out through the abdominal wall. This made in effect, so far as the gall-bladder was concerned, a Lembert suture, inverting the lips of the wound so as to bring peritoneal surfaces in contact and secure prompt union.

In closing the wound at time of operation two or three stitches at the center of the opening in the gall-bladder were not tied. The wound was left open at this point, and packed to insure drainage. When drainage was no longer necessary, the surfaces were scarified and brought together and the stitches tied, without causing pain or requiring the use of an anesthetic.

DR. JOHN B. ROBERTS, Philadelphia, suggested that where a gall-stone was impacted in the common duct, the duct might be followed down to its entrance in the duodenum; and the duodenum opened opposite this entrance, a probe introduced into the duct, and the obstruction pushed back into the gall-bladder. The dilatation of the duct above the point of obstruction would commonly render this not difficult.

APPENDICITIS WITH ANOMALOUS POSITION OF APPENDIX.

DR. A. J. HOSMER, Salt Lake City, exhibited a boy operated for appendicitis, in whom no trace of appendix could be found through the usual right iliac incision; but a mass of inflammatory exudate could be felt far up and to the right. A median incision was made, and the gangrenous appendix removed from the midst of this mass. The colon seemed not to pass into the right iliac region at all. In this case pain was referred to the left side.

SUPRARENAL EXTRACT IN SURGERY OF EAR, NOSE AND THROAT.

DR. W. W. BULETTE, Pueblo, Colo., read a paper on the value of this preparation, based on its use in 201 cases. He finds that it produces anemia of the tissue, reducing swelling, and preventing the hemorrhage that would otherwise obscure the field of operation. It also aids in securing local anesthesia, which is cut short by the hemorrhage that carries away much of the cocain. Operations can thus be done without pain or loss of blood. There is little secondary hemorrhage, and no unpleasant effects Since employing suprarenal extract cases presenting alarming symptoms of cocain poisoning have been fewer. It reduces the dread of operations to a minimum.

BOTTINI INSTRUMENT FOR HYPERTROPHY OF THE PROSTATE.

DR. LEONARD FREEMAN, Denver, reported 8 cases operated on with this instrument. Of these, 5 were practically cured; 1 case improved at first, and continued to have no residual urine; but pain and frequency of urination were as bad as ever, and cancer was now suspected.

The instrument burns grooves in the prostate. It consists of a platinum knife arranged like the male blade of a lithotrite: this is heated by the galvanic current, while any general burning of tissue in contact with the instrument is prevented by a stream of ice-water circulating through it. Operation with the instrument causes little pain or after bleeding.

Few men submit cheerfully to castration or even vasectomy. Bottini's operation causes no external wound. It can usually be done under local anesthesia. In the above cases general anesthesia was used once; and in two local anesthesia was not entirely satisfactory. The burned surfaces are practically sealed against absorption. The benefit is immediate. There are few relapses. The patient can move about within a day or two. The danger is less than by other modes of operation. Patients will submit to it when they would not submit to other operations.

MASTOID DISEASE.

DR. C. K. COLE, Helena, Mont., had seen sixteen cases of serious mastoid disease in the last twenty months, of which he reported four. These cases were essentially surgical, and should be seen by the surgeon. He advocated thorough open-

ing of the mastoid and irrigation with at least two to four quarts of hot sterilized solution. The periosteal incision is also useful in young patients. In extreme cases multiple openings are a rational procedure.

DR. W. W. BULETTE has found that mastoid disease followed acute otitis media; but with early paracentesis of the drum membrane, few will go on to the more grave condition. Heroic doses of epsom salts he has also found beneficial in preventing mastoid involvement.

DR. H. R. BULL, Grand Junction, Colo., recently met with two cases of mastoid disease following measles. He employed hydrogen dioxid as a cleansing agent in these cases.

TOXIC CAUSES OF INSANITY.

DR. HUBERT WORK, Pueblo, Colo., called attention to the generation within the body of poisons capable of causing mental alienation. Loss of weight and anorexia occur so constantly in connection with certain pschycoses as to suggest a common cause. It is certain that insanities do result from prolonged digestive disturbances. Autoinfection from the alimentary canal may alone cause many cases. He reported four illustrative cases in which treatment directed to the source of the toxic influence brought about a cure of the mental symptoms. One was a case of digestive disturbances, cured in three months. The second was a case of rheumatism, cured in eighteen months. The third was a case of chronic cystitis, cured in four months. The fourth was a case of hepatic derangement, cured in two months by treatment of the hepatic disease alone.

Insanity is a symptom, and removal of its cause brings recovery. In no disease is proper medical treatment more needed at the beginning.

AUTOINTOXICATION AND BLOOD MORPHOLOGY.

DR. P. S. KEOGH, Salt Lake City, discussed the bearing of these subjects on the preparation of the patient for surgical operations. The older surgeons noticed that complications followed less frequently when the patient had been carefully prepared for operation by catharsis. Symptoms of indigestion and gastro-intestinal disease should always be carefully looked for. Examination of the urine might reveal a deficient elimination of solids. General anesthesia increases the danger from autointoxication by reducing the amount of oxygen in the blood. The examination of the blood, particularly with reference to the percentage of oxyhemoglobin, and leucocytosis, gives very important evidence regarding the patient's power of resistance.

GENERAL AND LOCAL INFECTION BY THE BACTERIUM COLI.

DR. J. N. HALL, Denver, reported two fatal cases of this form of infection. The organism, at first regarded as a harmless habitant of the normal alimentary canal, was now known to be one of the most important of the pathogenic bacteria. Probably the organisms designated by this name should be regarded as constituting an extensive group, presenting varying degrees of virulence, rather than as a single species. The first patient, after twenty-four hours' retention of urine, presented great numbers of the colon bacilli in the bladder. There ensued pleuritis, bronchopneumonia, pericarditis, a purpuric eruption, pyelitis, and perinephritic inflammation. In the second patient, also a male, there were numerous abscesses scattered over the body, and a purpuric eruption. The bladder was distended with acid, foul-smelling urine, containing sugar, and loaded with bacilli. Gas was generated in the bladder. The spleen was found septic, also the liver. The heart was large and fatty. There was nephritis, and a large abscess behind the upper end of the sternum.

EARLY DIAGNOSIS OF TUBERCULOSIS.

DR. A. M. HOLMES, Denver, made a plea for the early recognition of this disease, at a time when it was most curable. There are early evidences that the vital forces are impaired, which warn of danger, and if these are heeded recovery may be brought about. Impaired health, loss of appetite and weight, gastric disturbances, dyspnea and persistent cough should lead to careful and repeated examinations. The early examination of sputum is overrated. The bacteria may not be found. Concealed foci of infection may exist a long time before the bacilli find their way into the sputum.

"Cog-wheel respiration" he regards as an important early sign. Subnormal morning temperature is also an important symptom. Hemorrhage is not early in the disease; the study of the blood is of greater importance than the study of the sputum, especially the examination of stained films, with differential count. There is no excuse for delay in the diagnosis of tuberculosis, for we have a certain test in the reaction produced by tuberculin. He begins with the injection of 1 mg. If no reaction follows, three days later 3 mg. are injected; and if this produces no effect 5 mg. may be tried. The injection is made in the evening and the reaction commonly occurs six to twelve hours later.

At the business meeting fifteen new members were elected, and Judson Daland and John B. Roberts of Philadelphia were elected honorary members. The following officers were chosen: President, Charles K. Cole, Helena, Mont.; vice-presidents, Leonard Freeman, Denver, and R. H. Reed of Wyoming; treasurer, Charles G. Plummer, Salt Lake City; recording secretary, Donald Campbell, Butte, Mont.; corresponding secretary, S. D. Hopkins, Denver. The next meeting will be held at Butte, Mont., the last week of August, 1900.

California Academy of Medicine.

July Meeting.

(Concluded from p. 415.)

INCUBATION PERIOD IN SYPHILIS.

DR. DOUGLASS W. MONTGOMERY brought up this subject, and said—The interval elapsing between the inoculation of the syphilitic virus and the appearance of the chancre seems to be subject to wide variations. This is unfortunate, as the physician is often obliged, in order to cover possibilities in foretelling the future, to keep an anxious patient, with a stricken conscience, a long time in suspense. Authorities disagree very widely. According to Max Joseph, for instance, this time of incubation varies between ten and forty-two days, with an average of three to four weeks. Personally, my impression is that this average of three to four weeks is too long; but impressions are not facts, and facts personally observed are very difficult to gather on this subject. Patients are inaccurate or unable to give the date of inoculation, or are often unable to give the time of the appearance of the chancre. The following is an instance where the observation was accurate and by a trained observer:

On July 10, 1894, a doctor who had been attending the meeting of the AMERICAN MEDICAL ASSOCIATION, held that year in San Francisco, came to me with a roseola of the body and limbs, and of the right palm and sole. There was a herpetic sore in the mouth, which, however, was not characteristically syphilitic, and there was some redness of the fauces and throat. There was also stiffness of the right masseter muscle, and some pain down to the margin of the lower part of the sternum, which was also thought to be muscular. Both right and left epitrochlear lymphatic nodules were enlarged, and there was a large packet of swollen lymphatic nodules in the left axilla. A diagnosis of syphilis was made, and the doctor then drew my attention to a dark red patch, about the size of a nickel, over the inner side of the lower extremity of the left ulnar, which he said was the site of an ulcer. He then told me that on May 15, while on the train, coming to San Francisco, he noticed in this situation a small sore which was painful and annoying, particularly because the edge of his cuff struck against it continually. This date is probably accurate, because while traveling one can by coincident circumstances be more precise about dates than in the ordinary routine of life, and, as before stated, the inconvenience caused by the edge of the cuff, drew early attention to the lesion. This small sore grew larger, and became covered with a black scab, and then swelling of the left epitrochlear lymphatics and of the nodules in the left axilla was noticed. Pronounced secondary lesions were first noticed on July 5, although for a month previous he had suffered from malaise and pains in the limbs. He said that shortly before leaving home, while circumcising a patient suffering from a venereal sore on the prepuce, he pricked himself in the arm with the point of the knife. On returning to his home in the Middle States, he consulted his books and sent me the exact date of the above-mentioned operation, which was April 29, 1894, or sixteen full days previous to noticing the sore on his forearm. In his letter he also said that the patient he then circumcised was, when again seen, suffering from the most virulent secondary symptoms he

had ever seen. The doctor had on April 29 circumcised a syphilitic patient, and during the operation pricked his arm slightly with the point of the knife. In the region of this puncture, on May 15, or sixteen full days after the operation, he noticed the sore, and on July 5 cutaneous symptoms were manifest. He consulted me July 10. There can be no doubt that this lesion on the arm was a chancre; its existence before general manifestations appeared, together with the large packet of enlarged lymphatic nodules in the axilla, were in themselves excellent evidence of this. In addition was the fact of his having abraded himself with a knife which he had used in circumcising a patient with a venereal sore, who broke out shortly afterward with symptoms of virulent secondary syphilis.

DR. DUDLEY TAIT—I do not think there is anything positive as to the period of incubation; I think it a very variable quantity. I have personally studied this matter a little, and that is the result of my own observations, as well as the opinion of most authorities. I remember two patients who presented excellent opportunities for observation, as they were both infected extragenitally. The first patient was a girl who had been kissed on the neck by a young man infected with syphilis; she had recently suffered a slight burn on the neck, at the site of the kiss, and this was not quite healed up at the time. Nineteen and a half days after the kiss a sore appeared at this point, and became an ulcer. I did not make a correct diagnosis at the time, but after curetting tried to graft over the ulcer. In making the skin slices from the arm of the lover of the girl—himself uninfected—I infected him with syphilis, which first appeared eighteen days after the operation, and was a beautifully typical case. A third case of infection occurs to me, in which the patient was in all probability infected in a barber shop by a slight cut with a razor. Though two other cases of syphilitic infection are reported from the same barber shop, the source of infection with this man is not absolutely clear, for the reason that he was then living with a woman who had had syphilis, and she may have kissed him on the cheek at the site of an abrasion. The time in this case, and the two others from the same shop, was twenty days.

DR. S. J. HUNKIN—In the cases just mentioned by Dr. Tait I should think the average period of incubation as mentioned by Dr. Montgomery was substantiated; they were all from eighteen to twenty days.

DR. TAIT—There are cases on record where the period of incubation has been as great as 100 or 110 days.

DR. MONTGOMERY—There can be no doubt that the time of incubation is a variable one. I remember some interesting cases in point reported in the *Lancet* some years ago. Some soldiers had had themselves tatooed by a person who was affected with syphilis. In the process he dipped the needle with which he made the tattoo punctures into his saliva. The men could all be carefully watched, and the time before the appearance of the chancre in some of them was quite extended; one man went for eighty-nine days before the chancre made its appearance on his arm. There are also some cases reported in which the period of incubation was very short. I believe Taylor mentions one case in which the chancre appeared on the patient after two or three days.

Chicago Academy of Medicine.

Regular Meeting, June 23, 1899.

(Continued from p. 416.)

With reference to pulmonary tuberculosis, the presence of immunity here is one of considerable importance, from the fact that so many persons during some period of their life are thrown in contact with persons who have consumption and die of consumption. This may be either through their relationship with such persons in schools, boarding-houses, or from marriage, by constant and prolonged contact for months or years, during which they show absolutely no evidence of infection. They are apparently perfectly healthy and live a long time afterward without any affection, while subject to this constant contagion during the period of their existence. For this reason I believe there is considerable natural immunity in tuberculosis. The majority of tubercular infections become most highly developed at about the time that maturity results. They are not so evident except in the form of bone tuberculosis and some special forms in the child itself. But I think at the beginning a large number of cases of pulmonary tuberculosis, considering that phase of it, have their beginning in the child life of the individual, and I am also of the opinion that tuberculosis may remain latent for a considerable period when some circumstance, as an unusual exertion, or an intercurrent disease, may furnish an opportunity for the tuberculosis, consumption more particularly, to become active and for the individual to have a sudden extension of the disease and die within a short period.

Now, as to the relation of the child to tuberculosis and measures for its prevention in after life: If tuberculosis begins during child life we should, as far as possible, prevent the individual from coming in contact with tuberculous material. We should not feed children on milk of tubercular cattle, because I do not believe it is necessary to have intestinal infection from the simple fact that tuberculous milk is used. On the other hand, it is fairly clear to my mind from reasoning on the subject, that tubercle bacilli can live in the intestinal canal and pass into the circulation and become localized at some distant part of the body without any infection of the intestinal canal at all. We find by inoculation experiments on animals, injecting tuberculous milk under the skin at different points that we can produce a localized tuberculosis in the spleen, the liver, and in the lungs. The same is true of pigs fed on the milk of cows that have tuberculosis. There is frequently no infection of the intestinal canal, but we have tuberculosis of the liver and of other internal organs with, at times, tuberculosis of the lungs. For that reason, the food should be one that is free from tuberculosis. This is a question by itself, and even a large one, as far as cattle affected with tuberculosis are concerned.

Another point of great importance is that children who represent a condition of immaturity, apparent defects in natural immunity, should be selected as special examples for training toward the development of their natural immunity. We have all forms of physical examination as persons become older. When children start in school there is no attempt made at physical examination. That is a point of considerable importance, as brought out by Dr. Scott, and those children who appear to be lacking in natural immunity should be selected from the pupils for special courses of development along these lines, to guard against the possibility of developing those diseases later in life. We know the good effect of sanatoria and climatic changes on individuals when they are actually infected with tuberculosis. What, then would be the possibilities in individuals or children who show what is generally looked on as a tubercular tendency, that is, absence of robustness, failure of natural immunity, if they are placed under similar conditions to those individuals who are actually infected with tuberculosis and who recover. Then, if that can not be done, as far as tuberculosis is concerned, gymnastic work and special training should be had, so that there shall be a complete elimination of the effete products of the body, keeping everything clean, because we know bacterial infection is especially prone to take place where there is a nidus allowing bacteria to remain for a certain length of time, sometimes longer in the case of one form of bacterium, sometimes shorter in the case of others. The bacillus of tuberculosis may remain for a considerable time at one point, and then under suitable conditions develop and begin its serious work. In the child, if taken in hand in a proper manner and given a proper course of training, so that the areas of least resistance in the body are renovated, the chance of tuberculosis developing in after life is greatly lessened, and the chances for developing a strong man or woman in the end are very much more certain than if the child has to educate itself and care for itself in after life.

MENTAL AND NERVOUS ASPECTS.

DR. JAMES G. KIERNAN—The relations of childhood to adult defect and disease are, from a psychiatric and neurologic standpoint, determined by three factors: heredity, the reaction of the organization to the periods of stress, and the results of disease and environment after birth. The development of man after birth is marked by periods during which certain important functions are, so to speak, learned by the organs, or other functions pass into disuse. The infant is a being

wrapped up in its instincts of self-preservation. The primary ego is predominant, and the child is an egoistic parasite. Development of a complex mental state tends to check a simple explosive propensity in accordance with the well-known law of evolution from the simple homogeneous to the complex heterogeneous with a loss of explosive forces. The forebrain is a checking apparatus against the lower and more instinctive natural impulses. The higher its development, the greater its tendency to subordinate the particular to the general. In training the infant, the difference between its explosion of anger and egotism and expressions of suffering or need must be recognized. Many a mother, by taking the child up when it cries, irrespective of the cause of the crying, has laid the foundation of that future selfishness which develops into the egotist who keeps within the law, or into the criminal who passes beyond it. With this training, conscience begins to assume its priority, the forebrain acts as a check on the purely vegetative functions, and the secondary ego develops to take precedence over the primary. If, as already stated, through lack of training, the checking functions are weakened, disordered predominance of the natural instinct occurs, and, when totally lost, a criminal appears who opposes the ethical order of society, a parasite of the worst kind, who not only lives on his host, but destroys him in so doing. During this period of stress the child expresses the fatigue of its nervous system by restlessness, which often finds expression in crying and explosions of temper with motor expressions even extending to convulsions. The balance between the system can only be secured by full development of all the checks—which are the latest and best acquirement of the race. The seeming suffering consequent on the period of the first dentition, however, often leads, through misguided albeit natural sympathy, to simulation of the primary ego of the child and hence to the retention of the child at a period of mental development that implies an arrest of the mind and moral faculties. This arrest implies, during the subsequent period of the second dentition and of puberty and adolescence, increased training to eradicate tendencies springing from the unchecked primary ego. Otherwise these render the child unsuited to his mental and moral environment. The seeds of what is afterward cruelty toward animals, playmates and relatives are often sown by the attention given to the invalid infant during the troubles resultant on the constitutional evolution of the first dentition. The child mentally is in the condition of primitive man, who was the center of the universe, owned everything, but feared nothing except the unknown. The mental state of the infant at this time, as later, resembles, so far as the fear of the unknown is concerned, the mind of the savage and the animal. A lion which would face a man will run away from a suddenly-opened umbrella. The child, like the savage, does not distinguish between its dreams, its beliefs, and actual perceptions of the senses. This is healthily shown in the way it regards its doll, and unhealthily—unless corrected, by an instinct of refuge-taking in the arms of the nurse or parent—in its fear of the unknown. This unknown, until quite late, does not include death, but some occult trifle. As any condition of disease or disorder interfering with the balance which makes up the nervous system creates uncertainty, as this mental uncertainty increases fear of the unknown, the child during the period of the first dentition accumulates a mass of fears which dominate its mental life unless corrected by refuge-taking and training in like manner as such fears do primitive man, the persecutory delusional lunatic or the neurasthenic. The two last, through denudation of checks acquired during infancy by illness, have returned to the condition of man and the child. In proportion as the infant is surrounded by judicious care during this period, and not by maudlin sympathy which defeats its own objects, will the fear of the unknown be so controlled as to render easy the child's training during subsequent periods. During this period, training should be directed to developing the tendency to the full effect of refuge-taking by limiting this to occasions. While the spoiled child is often the offspring of a defective, its defects are decidedly increased by the training given by its defective parent. Maudlin sympathy, whether for animals, children or invalids, is an expression not of the secondary ego, but of the lowest primary, a mere pose to secure personal gratification at the least possible expense. It tends to develop its own likeness in the persons to whom it is applied. Good wine makes very sour vinegar. Parental affection of the defective is thus very often worse than neglect. Expressions of either the disorder or the passions of the child during this period are generally motor. The child cries, whether from anger or unsatisfied desire, in a convulsive manner accompanied by marked motor manifestations almost approaching convulsions. Like the primitive races, convulsive pantomine repeats or adds to speech. These two conditions are so intermingled that while on the one hand physical treatment of the conditions underlying convulsive tendencies will cure them, or hygiene will prevent them and thus prevent explosions of anger and egotism to which they give rise; so, on the other hand, will mental and moral treatment of the egotism and anger prevent convulsive tendencies. The humoring of the supposed invalid child at this period has the same bad effect as the humoring of a chronic invalid. As the child does not distinguish clearly between its suddenly conceived thoughts and what it sees, hears or feels, hallucinations may occur. Some of them are regarded as lies, some are ridiculed, others are humored, all of which procedures tend to fix these hallucinations in the mind to be retained in after-life.

The second period of stress is marked by the important maturity of the jaws and teeth, but while the stress of development is as great during this period as during the last described, it is not so obviously related to the development of the teeth as in popular opinion to be ascribed to that cause alone. The factor, therefore, which tended to interfere with training during the first period of stress is not so obviously present. Sympathy for the child during the second period of dentition is much less maudlin and its judicious exercise is much more frequent.

The second period is marked also by developments in the alimentary and other systems. A species of contest for existence has resulted between the central nervous system and the other systems whose effects are felt during the next period of stress. During this period, provided the struggle for existence goes well, the average child does not display any special disorder, but if, from inherited or congenital defect, development of the system does not proceed equally, then evidences of stress occur. Among the nerve expressions likely to result from this stress are the following:

Neuroses.—Convulsions, nervous laughs, nervous coughs, spasmodic hiccough, spasmodic sneezing, stuttering, ties, neuralgia, chorea, epilepsy, somnambulism, ecstacy and hysteria.

Psychoses.—Hallucinations, anomalies of character, aberrant sentiments—love jealousy, anger, pessimism—imperative conceptions—pure; attended by impulsive acts (arson, suicide, destructiveness, homicide, alcoholism, theft, rape, non-criminal acts)—idiocy, imbecility, night terrors, mania, acute confusional insanity, melancholia, transitory frenzy, stuporous insanity, katatonia, moral imbecility, paranoia, periodical insanity.

In many respects these nerve expressions of stress are remains of the imperfect training of the first period; in part, they are evidences of that precocity which is an expression of premature senility. The struggle for existence between the higher nervous system and the ordinary functions of the body partially results in victory for the latter. In man from about the third year onward further growth, though an absolute adaptation to and environment, is to some extent growth in degeneration and senility. It is not carried to so low a degree as in the apes, although by it man is to some extent brought nearer to the apes, and among the higher races the progress toward senility is less marked than among the lower. The child of negro races is scarcely, if at all, less intelligent than the Caucasian child, but while the negro as he grows up becomes stupid and obtuse, the Caucasian man retains much of his child-like vivacity. In the highest human types, as represented in men of genius, there is a striking approximation to the child type. The average man of genius is comparatively short and large-brained—the two chief characteristics of the child. His general facial expression, as well as his temperament, recalls the child. The aim, therefore, of education at this time should be directed to the creation of a system of

balance which would prevent that operation of the law of economy of growth whereby a too much stimulated nerve being weakened, the rest of the organs gain at the expense of the organ controlled by it. Neglect of this principle checks further growth or unduly precipitates the approach of the next period. This is shown in some of the nerve expressions of stress. It is evident that imperative conceptions sometimes take a form connected with the continuance of the race which should not appear in the ordinary course of events until after the onset of the next period of stress, between 14 and 25. As the third great period of stress is marked by development in the bony structures, especially connected with the teeth and jaws, the systems connected with these not unnaturally affect the skull and face and set in action causes which, if not duly balanced with the system as a whole, tend to check brain growths or developments as to associations.

The three periods described are not inaptly designated the period of the first dentition, the period of the second dentition, and the period of puberty. The last, albeit better designated as just described, could also be entitled the period of the third dentition, since in it the dentition is finally completed, the wisdom teeth appearing, if at all, during its close. During this period the bones of the pelvis which enclose the structures devoted to the continuance of the race are finally perfected. The period is marked by the contest between two great functions, one intended for the continuance of the race, the other for the systematization of the various intellectual and other checks for the benefit of the individual which have been acquired during the first decade and a half of life.

In consequence of this struggle, the mind, which, during the previous period had acquired somewhat of a balance, has new factors introduced which create for the time being a consciousness of instability that underlies the doubting tendency so often present during this period. The imperative conceptions described as occurring during the previous period, are now more frequent and more likely to be attended by impulsive acts. Furthermore, the imperative conception is less likely to be dominated by a healthy, suddenly acquired conception. For this reason suicide, homicide and other imperative acts are much more frequent during this period than during the preceding. The introduction of the potent influence of the great instinct of the race is also a disturbing factor, especially as this instinct can be aggravated by local disorder apparently without relation to it. In the previous period many of the impulsive acts were committed without consciousnes of their moral significance. In the present period this moral significance is extended even to acts not ordinarily regarded as coming within the scope of ethics. This mental state is often unduly encouraged because of the belief that it is an expression of ethical significance, whereas it is but an additional evidence of egotism to be discouraged. For this reason, an undue struggle for class position breaks down the individual since the worry engendered by possible failure destroys the balance between the different mental faculties. It is worry, not study, which is the cause of the many nervous and mental difficulties resulting at this period.

The influence of disease, of improper food and environment may even in congenitally sound individuals produce any of the neuroses and psychoses already mentioned.

SCHOOL STRAIN OF CHILDHOOD IN ITS RELATION TO ADULT DISEASE AND DEFECT.

PROF. COLIN A. SCOTT—School strain falls on those who are least able to bear it. The first thing in considering this question is the defectives. During the last year, under the auspices of the Chicago school board, I conducted a series of examinations, directly and indirectly, of 8750 school children. This is only a small percentage of the children in our public schools of Chicago, but the percentage of defectives among this number was about 18 per cent. of those examined. The defects that were sought for, in the first place, were those of the eye and of the ear, and, in the second place, such nervous defects as could be observed by the teacher in the ordinary course of school events, and such as a slight or superficial physical examination could detect. The problem was to adapt school work to the condition of the children, as well as to make it of service in assisting the children. Slight defects of hearing I find are exceedingly common. I have full descriptions of hundreds of cases. A concrete case will be of advantage.

A pupil was observed by his teacher to be careless in his work; he was not as far advanced in his grade as the rest of the boys. He did not pay very close attention to what was being done; he threw things around, made considerable noise, but when spoken to sharply, paid attention. This case was referred to me. After hearing the description, the first question I asked of the teacher was whether she had tested the hearing of the child, and she said she had not done so. On examination, by the teacher, it was found that this boy was partially deaf in both ears, although the deafness was not recognized either by the parents or any of the teachers before a special examination was made to reveal it. In such a case the boy did not need the services of an oculist to reveal the fact that he was hard of hearing, nor do many of the cases. This in my opinion is the function of the teacher. The teacher or parents, more particularly the teacher, should be able to observe these defects, although it is admitted that for treatment or a more careful diagnosis we must obtain the services of members of the medical profession. It requires a specialist to make a thorough examination to determine whether a child has defective hearing or not; still, teachers can make use of the watch-test for determing varying degrees of acuteness of hearing. As a result of this method there are hundreds of cases that have been recognized and whose condition in the school has been improved.

In the examination of the eyes we have the same necessity for examination on the part of the teacher. President Harper, of the University of Chicago, told me that until he was 12 years of age the world was to him a dim and misty place; that neither his parents, his teacher, nor physician knew that he was astigmatic. It seems to me, we need more strenuous efforts made to open the eyes of the public as to the importance of some recognition of the ordinary defects of childhood.

The other defects, those of the nervous system, are more difficult of recognition by the teacher. There are many children in the schools who are somewhat like the case I saw a few days ago. I observed a lesson which was being taught by an enthusiastic teacher to an enthusiastic class. There was apparently nothing lacking to a superficial observer. I watched the children carefully, and I saw many cases similar to the one I am about to describe.

A little girl during the first twenty minutes of the lesson was all excitement. She listened to the teacher very attentively; her face was flushed. During that time I saw two distinct flushes pass over her face. She surpassed her companions in answering the questions of the teacher. But at the end of twenty minutes she collapsed. Her head drooped, she put her thumb in her mouth, gazed vacantly, then tried to arouse herself, but to no avail. She had passed through a condition of irritable weakness to one of considerable exhaustion, both phases of undue fatigue. I asked the teacher if she had observed this child, and she said she had not particularly. She had noticed, however, that the child was very bright, and answered questions much better than any of the other pupils. She had not observed the flushes or other signs.

Now, it seems to me, if the eyes of the teachers were opened to the significance of these observations, it would have a great effect on the development of children in school. It would also have an indirect effect on children other than those who are defective. Our present examination system of education is arranged like a series of hurdles, over which our pupils are expected to pass, cart horses and race horses alike. Such a system is not best adapted to develop the brain of the child. It overtaxes and strains the nervous system, producing injurious effects. School studies should be arranged in such a way that the work is adapted to each individual pupil whether it results in the passing of a definite examination or not. The aim is to round out the development of the child, making as symmetrically developed an individual as possible. In this connection the most important diveovery in child-study is what I have been accustomed to call by the name of "nascent periods." In the mental life of the child there are periods which are favorable for the growth of certain organs or combinations of organs. We know that the heart, for example, has different periods of growth, partly independent of the rest of the body. The same is true of the liver as well as other organs. Growth in height follows the same law. There are distinct periods when growth in height is accelerated. A similar periodicity is observed with respect to mental activities and, as Flechsig shows, with different groups of brain fibers. These nascent periods are important to observe, and I have studied some of them with care. (Illustrations were given.) It requires a long time to settle this matter scientifically, in such a way as to be helpful, to determine the limits of each nascent period, and what it is that grows out of it. There is a fertile field for investigation in this line, extending from the intellectual into the emotional and moral qualities. I have considerable data on that matter. All of these things are materials which concern the proper education of the child. Teachers and educators are becoming interested in child-study, and are beginning to realize its importance.

(To be continued.)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

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No. 61 Market Street, Chicago, Illinois.

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SATURDAY, AUGUST 19, 1899.

BRAIN WEIGHT AS INDEX OF INTELLIGENCE.

Opinions regarding the weight of the brain being an index of intelligence have fluctuated within wide limits. Before the days of cerebral localization there were many physiologists who believed that an individual's intelligence was directly proportionate to the total weight of the encephalon. A large brain meant large mentality. As the encephalon began to be more closely investigated and the post-mortem records were more carefully compared, it was discovered that large brains were not always possessed by those who exhibited the highest intelligence. In fact some of the greatest thinkers in the world were the owners of brains much below the average in absolute weight and size. This apparently upset the earlier physiologic dicta in regard to mind activity being dependent on the physical brain. The discussion at once assumed two aspects. Some physiologists frankly declared that mind was not solely a product of brain function, but that it was an entity dependent for its manifestation on the brain, but nevertheless quite separate and distinct from the latter. Scalpel and alembic might analyze the brain, but they could do nothing to explain the mind. These views characterized the metaphysical physiologists. The materialistic physiologists, on the other hand, took the ground that the mind was solely and *in toto* a product of brain activity, and that accordingly it must follow that a large mind necessarily presupposes a large brain. In attempting to harmonize their views with the apparently contradictory observation that many of the most intelligent men were the possessors of undersized brains, these physiologists were again divided into two camps, as it were; some taking the ground that the cellular richness of the cortex, including its convolutional development, was the real indicator of intelligence irrespective of the total brain weight, while the others maintained that the total brain weight was the potential indicator though not necessarily the actual one. The latter insisted that a large brain represented large capacity for mentalization, and that the brain, like the muscles, was capable of development, and the greater that development so much the greater will be the resulting mentalization. Its potentiality, according to these physiologists, rather than its manifested activity is what is shown in its total weight.

The average weight of the encephalon of a well-built European is about 1380 grams. As an argument in favor of brain weight being an indicator of mental power, real or potential, it is instructive to recall that Bismarck's brain, the largest on record, was calculated to have weighed about 1867 grams; while the actual weight of Cuvier's was 1830, Byron's 1807, Kant's 1650, Schiller's 1630 and Dante's 1420. It is unfortunate that in most of these instances the total body weight was not at the same time estimated, for that might have had some bearing on the question. Many of these large brains, as for instance those of Cuvier and Rubenstein, were associated with early hydrocephalus, which would seem to argue in favor of brain development as an antecedent of mental activity if not of actual mental development. So many brilliant thinkers have been hydrocephalic that we are forced to think that the expansion of the skull by reason of which the brain was later on enabled to grow, was an advantageous circumstance, in the enhancement of the individual's mental potentiality.

As an illustration of great mental power with a total low brain weight, Gambetta is often cited, as his brain weight was below those of the average. It should be noted, however, that the speech area of this great orator was uncommonly well developed, a fact which leads us to immediately ask the questions, what is intelligence? How much of it do great thinkers actually possess and exhibit? What relation does it bear to the special cortical areas whose functions we are now acquainted with? and do these special areas exhibit an increase in size and weight always in correspondence with the respective forms of special intelligence? Taking all these questions into consideration it would seem that brain weight, not *in toto* but in part, is after all an index of intelligence. Unfortunate is it that the variety of intelligence revealed by individual great thinkers has not been taken more into consideration when their brains were being examined post-mortem. It is exceedingly rare, if the phenomenon ever does happen, for a man to manifest a universal intelligence equally strong and exalted in all directions. His brilliancy is more apt to shine in one special department of knowledge, and all his other acquirements or natural powers will be subsidiary to this. In his "Intellectual Life" Hammerton goes so far even as to say that a man can not possess two languages, certainly not three, with equal accuracy, for as one be-

comes more and more facile therein the other loses[1]. Hence, intelligence, great as it may be in some individuals, is after all a more or less limited mental phenomenon. If this be so, the character of that intelligence should be given due consideration in the study of brain weight as its indicator. Many brains have been studied from this standpoint, and to a remarkable degree there has been observed a constant increase in size and weight of special parts that bear a relationship to the kind of superior intelligence manifested. Great artists, for example, in whom the visual imagination is highly developed, have been found to show a corresponding increase beyond the average in size and weight of the representative visual center in the occipital lobe.

The pendulum is thus swinging back again and in a newer but somewhat different sense, brain weight, including brain development with convolutional and cellular increase, is shown to be more or less of an index of intelligence.

DILATATION OF STOMACH DUE TO COMPRESSION OF DUODENO-JEJUNAL JUNCTION BY MESENTERIC ARTERY AND ROOT OF MESENTERY.

P. A. Albrecht[1] describes two cases in which uncontrollable vomiting and dilation of the stomach, and other symptoms of ileus, developed soon after operations on parts of the body not in direct connection with the abdominal organs. In the post-mortem examination of both these cases, it was found that the dilatation of the stomach ceased promptly at the superior mesenteric artery, and that there was no organic stricture of the duodenum at that point. In the second case it was found that when the mesentery was pulled down, then the superior mesenteric artery became tensely stretched over the duodenum, so that the latter was flattened out from before backward against the spinal column. The small intestines were crowded down into the true pelvis; but there were no adhesions which would hold them in the pelvis.

In 1842 Rokitansky suggested that intestinal obstruction might result from the pressure of one part of the intestine on another. Glenard pointed out that the duodeno-jejunal junction may become compressed by the mesentery and that the superior mesenteric artery is accompanied by a number of bundles of connective tissue, which form the real suspensory ligament or root of the small intestine. If the small intestine should sink into the true pelvis, then a weight equal to about 500 grams would pull on this ligament at the duodeno-jejunal junction.

Kundrat describes several cases in which he found the stomach and duodenum greatly dilated, the small intestine crowded down into the pelvis, and complete compression at the duodeno-jejunal junction by the mesentery. He believes that the cases are due to the peculiar form of the mesentery. Schnitzler also describes two cases, in one of which the duodenum was completely obliterated by a band, which proved to contain the superior mesenteric artery.

Albrecht calls attention to the fact that the ascending part of the duodenum, at the point of the superior mesenteric artery, is usually not round but flat, and that when the finger is placed in the duodenum under the artery, and the small intestine pulled down into the pelvis, the lumen of the duodenum becomes smaller. Albrecht believes that an overfilled stomach, especially when previously dilated, would press on the small intestine, and that in consequence the superior mesenteric artery would compress the duodenum against the spinal column and cause a true mechanical obstruction so that fluid would be unable to escape and enormous dilatation of the stomach and duodenum would result, which would only tend to aggravate the condition. In the same way chronic dilatation of the stomach might also become an indirect cause of obstruction of the duodenum. The paresis of the stomach which results after narcosis and surgical operations may be assumed, with Albrecht, to lead to similar results.

The principal symptoms of this form of obstruction of the stomach and duodenum are the following: profuse vomiting, the vomitus containing bile but not feces; great distension in the region of the stomach, but absence of intestinal meteorism. The previous history of dilatation of the stomach would be important. There would also be found dulness above the symphysis, owing to the compression of the small intestines crowded into the pelvis. Albrecht believes that a number of cases which die apparently as the result of acute gastrectasia belong to this category of ileus.

As regards treatment, then, gastrectasia should be remedied, as a prophylactic measure; during the acute attack the patient should be put in the knee-chest position, so as to liberate the small intestine from the pelvis, and the stomach should be emptied.

ORIGIN OF DERMOID CYSTS OF OVARY.

In the June issue of *Progressive Medicine* Dr. John G. Clark presents an interesting review of the recent research of Kroemer concerning the histogenesis of the so-called dermoid cysts of the ovary. As the final result of his review of the literature and of his study of twelve cases, Kroemer reached full agreement with Wilms, who was the first to offer any proof of the ovulogenous development of these tumors. The theory which has ascribed these tumors to inclusion of the ectodermal layer, in the early growth of the embryo, has never been satisfactorily proven. The principal objection to this theory is that ovarian dermoid cysts do not correspond to the type seen in the superficial parts of the body, where dermoids undoubtedly come from the ectoderm, because they contain only those tissues which are found in this layer. Arnsperger[1] reaches the same conclusions as Wilms and Kroemer. One of the tumors which formed the basis of Arnsperger's investigation was as large as a goose egg.

[1] Hammerton: Intellectual Life, Part III, Letter viii.

[1] Virch. Arch., 1899, 156, Heft 2.

[1] Virch. Arch., 1899, 156, p. 1.

and grew in the right ovary of a woman 27 years old. The special feature of this tumor was a complete trachea, and also structures which correspond to the stomach and intestines, as well as a distinct head region. The development of this entodermal tube was especially interesting, because the individual parts of which it was made up maintained the same relationship to each other as in a rudimentary embryo. The growth originated entirely from the ovary. In two other cases he also found distinct entodermal elements. The number of instances of so-called dermoid cysts of the ovary in which entodermal elements and rudimentary organs of various kinds, including more or less fully developed brains and retinal epithelium, as well as true optic vesicles, rudiments of ears, cranial nerves, ganglia, a quite complete medullary tube, as well as the remarkable observation of Kroemer of a sympathetic plexus within the muscular wall of an intestinal tract, are becoming quite numerous. As already indicated, dermoid cysts usually develop from the inside of the ovary; in a few instances the tumor has been attached to the ovary by a thin pedicle. As pointed out by Kroemer, these formations are neither simple tumors nor cysts, but consist of a cystic portion and of the varied embryologic elements enumerated. The changing form of the cystic portion, and in the growth of the dermoid itself, gives rise to the variability in the general appearance of the tumor. According to the views advanced by Wilms, Kroemer, and Arnsperger, the cystic portion of these growths is of follicular origin, while the embryologic parts are of ovulogenous development. In an observation by Lee a diminutive dermoid maintained the same relationship to the follicular cavity as the ovum to the follicle. Sutton made the same observation in the case of a dermoid cyst in the ovary of a mare. Kroemer likewise made out a similar relationship of the tumor to the follicle in two cases. The epidermal lining of dermoid cysts, therefore, appears to be derived from the ectoderm of the ovum. It would, therefore, seem that a dermoid cyst of the ovary in reality represents an ovum, and that the cyst is the more or less successful result of parthenogenesis. Kroemen points out that it is hardly correct to attribute the development to parthenogenesis proper, because this is a normal process in lower plant and animal life for the propagation of species, while in this case it was a distinctly pathologic process, in which the growth, differentiation of organs, etc., are atypic and occur without any definite law. The dermoid cysts of the testicles are explained by Wilms in somewhat the same manner. In this case the various portions of organs and tissures are derived from pathologic growth of the sperm cell. It has been suggested that these tumors be designated as embryoma, and it is thought that the development of the structures from the single ovum or sperm cell is greatly hindered, because of the confinement in the small space of cyst, so that only rudiments of embryos are developed. In what manner the ovum or sperm cell is stimulated to this anomalous growth is at present entirely mysterious.

CURATIVE VALUE OF GYNECOLOGIC OPERATIONS IN INSANITY.

The effect of disorders of the reproductive organs in causing or perpetuating mental disorders in women has been for a long time a vexed question among practical alienists. A certain proportion, probably the majority, are dubious as to the importance of this factor; many see objections to any very general extension of gynecologic surgery in asylums except where absolutely necessary. On the other side, we have some ardent enthusiasts who see in gynecologic diseases one of the chief active factors in the mental disorders of women. An article in the July issue of the *Dominion Medical Monthly* is in evidence of this; it is one of several that have recently emanated from Canadian sources maintaining the necessity and importance of gynecologic work in the insane. The author, Dr. Ernest Hall, has no hesitation in stating his convictions. He writes, however, with the heat of the reformer when he speaks of the opposition of "vested prejudices and conventionalities" that must be disturbed, and of dyeing the chariot wheel of progress red with the "political and official life blood of those who affirm that present methods are adequate." His statistics, so far as he gives them, however, are of interest; out of 70 female insane patients, 33 of the most intelligent and favorable cases were selected for examination; 30 of these cases were found fit cases for operation and 7 were operated on with the result of three cures, mental and physical, 2 improved, 1 death, and 1 with the result still in suspense. He tabulates 12 cases, the above being included, from which a better estimate of the strength of his position can be made. One of the twelve is noteworthy, a cure of melancholia of ten years' standing by double castration. One of the other two cases cured was insanity of only three weeks' standing, and the other of only a little over a year. It seems quite within the range of possibility that the production of an artificial menopause might have sufficient effect to materially modify the patient's mental condition, but as none of his cases has yet been over seventeen months under treatment, there still remains some rational basis for reservation of opinion as to the permanent cure, and the results are possibly less startling than he claims. The personal equation of the physician needs to be taken into account in the case of the estimate of the cure or improvement of the insane, as has long since been pointed out by Pliny Earle and others. This element has to be considered to some extent in any case, and all the more if the physician has enthusiastic views on any special theory or mode of treatment. On the other hand, we have the varying opinions among gynecologists and our knowledge of the variations of practice among them.

Insane women are not capable of deciding for themselves, and the physician's responsibility is therefore increased in their case. It is not remarkable, therefore, that asylum physicians should be cautious in advocating any general gynecologic crusade among their patients.

It is, moreover, unjustifiable to assume, as does Dr. Hall, that they are guilty of what is practically criminal neglect in not so doing. The opinions of experienced alienist physicians and neurologists not in accord with those of Drs. Hall, Bucke, Rohé and others on this subject also do not go for nothing in this matter; they are certainly numerous enough and sufficiently eminent in the profession to carry weight. The introduction of women physicians into hospitals for the insane, for the special duty of gynecologic work, has met some of the demands of the reformers, but these are by no means unanimously enthusiastic over the value of operative gynecology in the treatment of insanity in females. It is easy to suppose that any considerable operation may affect the mental condition temporarily for the better, as it does the attacks in epilepsy, but that enough permanent improvement can be brought about in this way may possibly be as dubious in the one case as in the other. It can hardly be said to have been proved as yet.

Considering all these facts, it seems safest to say that while an insane woman has as good a right to be relieved of needless suffering as any other, yet there are obvious reasons why judicious conservatism is advisable in the practice of gynecology in the insane.

AN EDITORIAL OVERSIGHT.

In its issue of August 5, the *N. Y. Medical Record* editorially gives credit to the American author, Dr. Leonard Corning, for priority in the method of local anesthesia by intraspinal injection, a method lately rediscovered by Bier of Keil, and published by him in the *Deutsche Zeitsch. f. Chir.* last April. The recognition is an excellent thing and the editorial prominence given it by the editor of the *Record* is altogether admirable, but it comes a little late. If he had thoroughly perused an up-to-date journal and read Dr. Matas' review of the progress of surgery in our souvenir issue of June 3, he might have given it in his editorial on June 24, on "A New Method of Anesthesia." Not only was Corning's work noticed in Dr. Matas' paper above, but also the fact that it antedated the "so-called methods of Oberst and of Bier." We are not surprised that in some things foreigners are fourteen years behind this country, but American editors ought not to be caught napping even if they do make honorable amends for it later.

THE DEVIL AS A HEALER.

Joseph Wilhoff of Chicago is in custody charged with obtaining money under false pretenses. He posed as a "Doctor," claiming to cure by the aid of the devil, his silent but active partner. Like all other supernatural healers, including the followers of "Mother" Eddy and "Father" Dowie, no ailment was too serious for his skill, provided there was money forthcoming, but it had to be "down on the nail,"—no pay, no cure. The trouble with Wilhoff, however, was that he went out of the beaten path; so long as he only swindled people out of their money with his pretense of healing, all went well, but when he began to fling around incantations, spells, and hoodoos among the superstitious Germans who composed his clientèle, the trouble began to brew. He, it appeared, not only convinced his dupes that he could cure diseases with the aid of the devil, but that he could raise hades generally with their temporal affairs, and finally some of them rebelled. The principal difference between this impostor and others at present notorious is chiefly in the sheep's clothing affected by the latter. There is, or should be, as good a case against them for obtaining money under false pretenses as against this open and avowed ally of his satanic majesty. It may appear more respectable to some people to take the sacred names in vain to promote frauds, than to use that of the devil, but it is in every way blasphemous and more morally criminal. It is, moreover, infinitely more harmful, as the devil naturally has but a small following that believes him capable of doing them any good. If Wilhoff is convicted, why not Dowie and the mercenary followers of "Mother" Eddy.

THE PLAGUE.

Fear has been expressed in various newspaper editorials and despatches, that the appearance of plague in Egypt is only a precursor of its invasion of Europe—not that there will be an inefficient quarantine against Egyptian infected ports, but that the steady advance westward of the disease, of which its foothold in Egypt is only an indication, is not likely to be checked unless more rigid and concerted international measures are adopted to check its progress. The Mecca pilgrimage is stated as one great source of danger, and a still more eastern gateway is said to be afforded through the Persian Gulf, where the English sanitary regulations are said to be sadly neglected. It is certain that the range of the epidemic has been widened, increasing the possible sources of contagion, and that a rigid sanitary cordon on land is much more difficult to make effective than a quarantine at seaports, and for this reason the possibility of the pest reaching and ravaging Europe is to a certain extent increased. We have already expressed an opinion that the peril is not as great as some have feared, and we see no reason to retract it. The conditions of the past are not likely to be reproduced, and it must be remembered that the plague has been actually in Europe six or eight times during the present century, without its repeating the history of the invasions of the past. Readers of Kinglake's "Eothen" will remember the description of his entry into the plague-stricken city of Cairo. In those days, while quarantines were rigid in spots, the general rules of sanitation were far behind what we have to-day, and Europe was, it may safely be said, far more vulnerable to attack than at the present. That it then escaped is a good augury for the future. It is quite possible, even probable, that there may be local footholds of the plague along the Russian and Turkish borders in Asia, or that it may appear, through some oversight, in some poorly-watched European port, but the chances of its spreading from such foci are not great. There are like dangers on our own coasts. It may be carried to San Francisco by way of Japan or China, but it will be our own fault if it gains a serious foothold. The need of vigilance is great at all times, but fear is irrational and unwarranted. As it is, the risk does not justify the sensational newspaper articles and despatches that have appeared.

VOLUNTARY VS. COMPULSORY NOTIFICATION OF CONTAGIOUS DISEASE.

In 1895 the Chicago Department of Health inaugurated the plan of allowing phyicians to "assume the responsibility" of enforcing precautionary measures against the spread of contagion in cases of diphtheria and scarlet fever. In other words, it made the notification of these disorders voluntary instead of compulsory. The results of this policy are reported in the *Monthly Bulletin* of the Department, for June, which is just in print. In 1894, the last year under the compulsory system, the total notifications of diphtheria were 1921, and the total deaths recorded from the disease, 1293, making an apparent death-rate from diphtheria of 67.3. In 1897 the cases reported were 3103, and the deaths 726, and in the first six months of 1899 the reported cases were 1726, as against 1304 for the corresponding period in 1897. Of all infectious reportable diseases, the total figures were 4380 to 1760 for the same periods respectively. These statistics are far better than labored arguments in favor of voluntary vs. compulsory reporting. As Commissioner Reynolds says: "The ordinance requirement of uncompensated professional service by physicians in the report of their contagious disease cases had not only been a demonstrated failure, but the tactless efforts to enforce the provision had alienated a most valuable ally of any health department. Now, more than ever before in its history, this Department is in touch with the physicians of the city, more fully than ever it receives the information from them necessary to success in its efforts to restrict the spread of the communicable diseases and to protect and promote the public health." It might be added here that the statistics further show that in the first half of 1897 the Department disinfected premises in 419 cases, and supervised 223 contagious disease funerals. In 1899, during the corresponding period, 2096 premises were disinfected and 380 funerals supervised. Figures speak louder than words, and while they may be misused, in this case no question can be raised as to their significance.

A MEDICOLEGAL QUESTION.

Last week a lawyer was fined fifty dollars and sentenced to thirty days in jail for practicing law without a license. During the trial it developed that he had practiced in the courts of Chicago for years; that he had a diploma from a law school, but had not been admitted to the bar. Editorially, the *Chicago Evening News* comments on the verdict as follows:

As to this decision no one interested in the dignity of the bar and the cause of justice will demur. It may be added, however, that the fact that this ignorant and incapable lawyer practiced ten years in the criminal and justice courts of Chicago before his right to the honors and emoluments of the profession of the law was questioned is not altogether creditable to the courts in which he practiced nor to the bar of which he was supposed to be a member. It is encouraging to note, however, that the Chicago Bar Association has at last taken the duty in hand of determining who are properly members of the legal profession in this city. The association will render a needed and valuable service to itself and the people by looking after other alleged members of the legal profession whose ignorance of law and the ethics of the bar are continually bringing the latter and also the administration of justice into disrepute. It is possibly, occasionally, that even a regularly admitted lawyer may resemble necessity in knowing no law, but that is not the rule. There should be a weeding out of these alleged lawyers.

To all of this we say "amen." But we would like to ask, if the question is not considered too impertinent, why people should not be protected against medical pretenders who are "turned loose to prey upon the people" just as much as against legal frauds? If the Chicago Bar Association is doing a good thing in weeding out "alleged members of the legal profession," why is it not a good thing when an organization of medical men attempts to rid the community of dishonorable advertising frauds, faith curers, Dowieites, magnetic healers and the various hordes of vampires, who, under the cloak of religion, pseudoscience, and other pretexts, prey on the people? If not, is it because life and health are of less importance to the individual than his money? Is it of more importance that the criminal should have an educated lawyer to defend or prosecute him than that an individual suffering from disease should have an educated physician to attend him? Will the *News* and the other Chicago newspapers, which are rightly endorsing the Chicago Bar Association in its action, in the same manner endorse the Chicago Medical Society should it attempt to rid the city of alleged "doctors" and charlatans who infest it? In other words, is it not just as important to have honorable and educated physicians as it is to have honorable and educated lawyers? And if so, do not physicians deserve the support of newspapers in their efforts to keep the standard of their profession high and honorable, as much as the lawyers in their efforts to keep up the dignity of the legal profession, even though in the case of physicians it might result in the loss to the newspapers of some advertising patronage?

Medical News.

DR. L. NAPOLEON BOSTON, Philadelphia, has gone to England and will be away for several weeks' rest.

THE RUSSIAN authorities have ordered the disinfection of all the mail arriving from places suspected of being infected by the plague.

SEVERAL cases of smallpox are reported from Windsor, Ont., and the three cases in the smallpox hospital in Toronto are now nearly well.

PROF. GRASSI has been granted, by the Board of Public Health in Italy, a sum to defray the expenses of further research on malaria.

THE LOUISIANA State Board of Health has sent Dr. J. J. Bland to Hampton, Va., to report on the yellow fever outbreak at that point.

THE SURGICAL clinic at Leipsic will have a centennial celebration in October, when a bust of Professor Thiersch will be installed on the city hospital grounds.

PROF. MAX VON FREY, the well-known physiologist, is to take the place of Professor Fick, who has retired from active professional life, in the Würzburg Medical Faculty.

AS WE go to press we learn that Justice Everett has imposed a fine of $100 on Mrs. Bratz, the disciple of the "Divine Healer," Dowie, referred to in last week's JOURNAL, page 423. The case is to be appealed.

AT EASTON, Pa., recently, a man gained entrance to the Easton Hospital under the pretense that he came to make an inspection of the electric wires, and stole money from many of the patients.

THE ANTIRABIES service at the Constantinople bacteriologic institute, according to *Presse Med.*, July 20, has been placed in charge of Dr. Marie, summoned from the Paris Institut Pasteur for the purpose.

THE SUPERINTENDENT of the Kings County Hospital, N. Y., has made the complaint that the new civil service rules have so crippled the working of the institution as to seriously interfere with its service.

A COMMITTEE has been appointed by the Delaware County Institute of Science, organized in 1833, to prepare a memorial of the life and works of the late Dr. Daniel G. Brinton, which is to be preserved in the archives of the institute.

A SEVERE fire broke out in a branch of the Royal Lunatic Asylum of Aberdeen, Scotland, July 31. The building was damaged nearly $25,000. Over 200 patients were in the building at the time but all were removed in safety.

E. H. STARLING, F. R. S., has been appointed Jodrell Professor of Physiology in University College, London, to succeed Prof. Schäfer, whose removal to Edinburgh we recorded in these columns several weeks ago. Prof. Starling is lecturer on physiology in Guy's Hospital.

A COUPLE of internes at the Hospital Pelegrin, Bordeaux, recently fought a duel with pistols discharged simultaneously at twenty-five paces, resulting in the perforation of the femoral artery and bladder and the death of one of the combatants, the son of a physician.

FEW SCIENTISTS receive such assistance in their research as Dr. Vatchef of Bulgaria, in his study of the Slavic type. The authorities have ordered exact measurements and physical details to be recorded according to his instructions, of all the native soldiers in the army.

WE LEARN from the *Medical Record* that a boy was recently arrested in New York City for spitting on women's skirts, and was fined for disorderly conduct. He had several times been apprehended for the same cause, and seems to derive gratification from indulgence in this impulse.

DR. ANNA S. FULLERTON, who has been practicing medicine for many years in Philadelphia, has decided to go to India where she will engage in special work, under the supervision of an interdenominational board. Among her duties will be the preparation of young women for the practice of medicine.

THE JAPANESE are keeping up their efforts in trying to make their country an enlightened one. The government recently ordered that vaccination and revaccination would be compulsory. All children must be vaccinated before the tenth month, and revaccinated at 6 and again at 12 years of age.

ANTHRAX is prevalent among cattle near Listowel, Ont. The Ontario Provincial Board of Health has ascertained that the existence of the disease is due to the polluted water below the tannery and woolen mills of that town. To remedy the evil, the Town Council has undertaken to devise a scheme for sewage disposal.

DR. THOMAS LOTHROP, who has for twenty years been at the head of the editorial department of the *Buffalo Medical Journal*, has transferred his interest to Dr. William Warren Potter, who becomes owner and editor-in-chief. The *Journal* enters on the fifty-fifth year of its publication with the addition of Dr. Nelson W. Wilson as assistant editor, and Dr. Maud J. Frye of Buffalo, as associate editor.

AN ASSOCIATION for the promotion of public hygiene has been organized in Germany, by V. Leyden, Rübner and other prominent members of the profession, and officials. Lectures, meetings, circulars, everything tending to educate the people in matters of hygiene is included in its scope. It is to have branches in every community.

NIEBUHR states that the first mention of the plague in history has been recently deciphered on a clay brick dating from 1380 B. C. It is a message from the king of Alaschja to the Pharaoh Amenophis, apologizing for the smallness of his tribute a certain year, as all his officials had died "by Nergal's hand." Nergal was the pestilence god.

DR. J. C. WEBSTER, who has been appointed successor to the late Prof. James H. Etheridge, Rush Medical College, Chicago, was married recently in New York to Miss Alice Lusk. The ceremony took place in All Souls' Church, being conducted by the Rev. Dr. B. Heber Newton. Dr. and Mrs. Webster have gone to Europe on their honeymoon.

ACCORDING to the *British Medical Journal*, the will of Mr. Lawson Tait, dated April 6, 1893, has been proved; the whole of the testator's estate has been valued at £9,571, 13s, 10d—$47,850—and his personal estate at *nil*. He left all his property to his wife, absolutely. The amount given is certainly much below what he was supposed to be worth.

IN A report on the water sources of New York State, just completed by George W. Rafter of the United States Geological Survey, it is stated that the Croton watershed, contains thirty-one ponds and lakes, with a total storage amounting to 73,569,000 gallons. When completed it is estimated that the Croton water system will supply 280,000,000 gallons daily.

FAY CONNOR, 11 years old, died in Chicago last Sunday, while under treatment by the "Christian Scientists." Just before death took place a physician was called who immediately recognized the disease to be diphtheria. The girl had been allowed to go out among her playmates and neighbors until too weak to leave her bed, and even then no efforts were made to isolate or prevent the spread of the disease. A coroner's jury investigated the case, and simply returned a verdict to the effect that death was the result of diphtheria. No one was censured, or blamed in any way because the laws of Illinois recognize these faddists as practitioners.

DR. T. G. RODDICK, Montreal, has just returned from an extensive tour of all the provinces in the Dominion of Canada, where he has been addressing the different medical societies and at the same time feeling the professional pulse in regard to "Dominion Registration." In British Columbia, Manitoba and the Northwest Territories there has been displayed on the part of the profession a gratifying unanimity of opinion in favor of the scheme. British Columbia, however, was a little bit suspicious. There they appeared to be afraid that the scheme, if adopted, might open the door to practitioners of the cheap diploma stamp.

IT IS expected that within a few days anthrax in Pennsylvania, where it has prevailed to a limited extent, will be stamped out. Over 200 cattle have been rendered immune by artificial serum, and so far none of these have been affected. The rule adopted by the Board of Health of Pennsylvania is to give three inocu-

lations as follows: First a mild dose of serum is given, to be followed within five days by a stronger dose, and two weeks later by a third dose of still greater antitoxic power. It is believed that by this treatment immunity is conferred, the duration of which lasts one year. No accidents have followed the inoculations.

SIX COLORED persons in Philadelphia, who have been exposed to smallpox, were recently taken to the Municipal Hospital where they have been restrained. The question as to whether they could be kept in quarantine, was agitated, and a writ of habeas corpus directed against Dr. William M. Welch, physician in charge of the Hospital. When the matter came up for hearing, Dr. Welch stated that: "The parties were detained for the usual period of incubation to pass, which may be a little more or less than two weeks." The judge therefore dismissed the writ applied for and decided that the health of the public necessitated their remaining in the Hospital.

FAKE "HEALERS" IN ENGLAND.—In England last month a man was sentenced to one month's, and his wife to six weeks' imprisonment, for having unlawfully and wilfully neglected their little girl of 5 years of age. The child died of pneumonia, no physician having been called to attend her. The defendants were members of the sect called Peculiar People. They were originally prosecuted for manslaughter, but as no physician would go on the witness-stand and swear that the patient could have been saved, this charge was dropped, and the lighter charge of cruelty substituted. The cruelty consisted in allowing the child to suffer the severe pain of the disease, when it might have been relieved. The *Lancet,* from which we obtain the above facts, thinks the sentence much too light, believing that while persons may torment themselves for conscience' sake, their unlucky offspring should not be compelled to suffer. In this country it would be considered that the age of reason had dawned if this much of a sentence could be inflicted. Another case recorded by the *Lancet* shows that the rights of a similar class of healers are also being sadly infringed on in England. One Rev. Stephen Shepard Maguth, who claimed to be a LL. D., but whom the *Lancet* inelegantly dubs "an ass," gave up preaching and started out as "a scientfiic medical botanist and hygienic and dietetic adviser in all ailments." And for this he got two months' imprisonment.

Therapeutics.

Iodipin.

Iodipin is an organic combination of iodin with sesame oil, in which the former has united with the fatty acids of the oil. Being in the form of a liquid it is absorbed by the body, and, like other fats, it is in part deposited in the liver, bone-marrow, and subcutaneous connective tissue, and in part disintegrated. The greater portion of the iodipin leaves the body in the form of potassium iodid, and a varying amount appears in organic combinations. Klingmüller (*Berlin Klin. Woch.*, June 19, 1899, p. 540) reports the results of some observations upon the use of iodipin by subcutaneous injection, made at the clinic of Neisser at Breslau. Such a mode of treatment is a special advantage for patients who will not or can not take iodin by the mouth, and especially the insane. It was first found by experiments upon animals that the drug thus employed was non-toxic. Thirty-six patients were treated and received two hundred and twenty injections of a 10 per cent. preparation. No unpleasant effects were observed even when 20 c.c., the equivalent of 30 grains of iodin, were injected daily. Five injections were made on successive days in cases in the hospital, but with longer intervals in ambulant cases. Subsequently additional injections of a 25 per cent. preparation were made, with equally satisfactory result. Not only was the iodin deposited in the subcutaneous tissues, slowly absorbed and distributed, but all of it was necessarily taken up and rendered active. Iodin appeared in the urine in from three to five days after the treatment was begun, and its excretion continued for several weeks, while with other preparations the iodin appears earlier and the period of elimination is much shorter. To overcome objection to the lateness of appearance, the slowness of absorption and tardiness of elimination of the drug when given subcutaneously, when a speedy effect is desired, it may be given by mouth simultaneously. The subcutaneous method of injection of iodipin has the further advantage of being painless, convenient and cheap. The injection is best made strictly into the subcutaneous tissues between the skin and the muscle, and preferably into the gluteal or interscapular tissues. The specific activity of iodin was manifested after subcutaneous injection of iodipin in the same degree as when other iodin preparations, and especially iodipin, were administered by the mouth. The results in typical cases of gummatous destruction were most favorable.

Finally, the subcutaneous use of iodipin was unattended with symptoms of iodism. As a result of his experience Klingmüller warmly commends the use of iodipin, and for the following reasons: 1. It exerts the specific action of iodin upon tertiary syphilis. 2. The organism is kept for a longer time under the influence of the action of iodin than with the use of hitherto employed preparations of iodin. The subcutaneous administration has the following advantages: 3. None of the drug is lost. 4. The organism disintegrates the iodin introduced slowly and regularly. 5. Iodism, with its unpleasant secondary effects, does not occur. 6. Absolute dosage is rendered possible. 7. The treatment is rendered possible for patients who for any reason will not or can not take iodin—the insane; after operations—the unconscious. 8. The body may be kept under the influence of iodin for weeks, or even months, by repeated courses of a few injections.

Facial Paralysis Cured by Salicylate of Sodium.

Following are the symptoms of a patient, in a case mentioned by Catrin, of paralysis of the seventh cerebral nerve: Paralysis of the muscles of the face, diminution of the salivary secretion, disturbances of hearing and taste, and downward deviation of the eye when attempts were made to close it. Catrin, believing the trouble to be of a rheumatic origin, put his patient upon sodium salicylate, 30 grains per day, and gradually increased this dose until 60 grains per day were taken. This was continued for two weeks, and then was gradually diminished. Altogether, the patient took the drug three weeks. Sensation began to return on the sixth day of the treatment. The patient could completely close his eyes in two weeks, and all disturbances of sensation vanished. There was no longer any trace of the trouble in three weeks.—*La Presse Med.*

Hydrochloric Acid in Gastric Anacidity.

Gastric anacidity is said by Reid to be best treated by hydrochloric acid. He says (*Merck's Arch.*): "Wegele and Hemmeter, among recent authors, bear witness to the powers of HCl as a stomachic or stimulant to the peptic glands. Hemmeter also quotes Riegel and Reichmann and Mintz as having reported cases of gastric anacidity in which the restoration of HCl was effected by a more or less prolonged dosage with the same acid. Hemmeter gives twenty drops of the diluted HCl, in appropriate cases, in two ounces of water every half hour, beginning fifteen minutes before meals and continuing it till half an hour after the meal. He has frequently seen excellent results from this method, and believes that the motor function

of the stomach, as well as the glands, is favorably influenced—a view which my own experience confirms. My practice has been to give much smaller doses. I direct the patient usually to begin with a dose of four or five drops of the dilute HCl, given after each meal in this way: The amount prescribed, which is gradually increased if necessary up to ten, or exceptionally, even to twenty drops, is added to half a goblet of water, which the patient is directed to take in small sips at frequent intervals during an hour or an hour and a half. In cases of complete or nearly complete anacidity the sipping of the diluted acid is begun immediately after the meal, but in other cases not till the meal has been over for half an hour. In this way the amylaceous portions of the food are given time for the action of the saliva. I was led to adopt this gradual method of administering the acid through having observed a number of cases with absence of free HCl, in which the patients complained of a marked burning in their stomachs after taking quite small doses of the remedy. This apparent intolerance of the drug was overcome entirely by having it taken gradually in small sips, and the results eventually were quite as gratifying as in other cases in which no such disagreement occurred."

Neuralgia.

℞ Tinct. aconiti
Tinct. colchici seminis
Tinct. cimicifugæ
Tinct belladonnæ āā.....3i
M. Sig. Six drops every hour until relieved.
—*Metcalf.*

INTRACTABLE NEURALGIA.

℞ Croton chloralis.....3i
Glycerini
Syrupi aurantii āā.....ʒi
M. Sig. One teaspoonful as required.
—*E. P. Hurd.*

CHRONIC NEURALGIC HEADACHE.

As an alterative to diseased nerves, in chronic neuralgic headaches, etc.:

℞ Zinci phosphidi.....gr. 1/40
Ext. cannabis indicæ.....gr. 1/8
Ext. nucis vomicæ.....gr. 1/8
Sodii arsenatis.....gr. 1/64
Quininæ sulphatis.....gr. 1/2
Ext. aconiti radicis.....gr. 1/10
M. Ft. tab. No. i. Sig. One such at 10 a.m. and at 4 and 9 p.m.
—*Henry J. Kenyon.*

NEURALGIC HEADACHE.

℞ Antipyrin.....3iss
Acetanilid.....3ss
Camphor monobromate.....3i
Caffein.....3ss
Phenacetin.....3ii
M. Div. in chart No. xx. Sig. Take one and repeat in one hour if unrelieved.
—*E. C. Wendt.*

INTERCOSTAL NEURALGIA.

℞ Tinct. gelsemii.....gtt. c
Syrupi simplicis.....ʒiss
Aquæ destil.....3vi
M. Sig. One or two teaspoonfuls two or three times daily.
—*Cheron.*

Caution—If the heart is feeble this formula should not be employed.

Brown-Séquard's prescription for neuralgia is as follows:

℞ Ext. hyoscyami
Ext. conii āā.....gr. xl
Ext. ignatiæ
Ext. opii āā.....gr. xxx
Ext. aconiti.....gr. xx
Ext. cannabis indicæ.....gr. xv
Ext. stramonii.....gr. xii
Ext. belladonnæ.....gr. x
M. Sig. Divide into sixty pills.

℞ Chloralis
Camphoræ pulv āā.....3i
Morphinæ sulphatis.....gr. ii
Chloroformi.....m. xl
M. Sig. m. xx the dose. May be used locally.
—*Bartholow.*

TRIGEMINAL NEURALGIA.

℞ Tinct. aconiti.....3ss
Tinct. gelsemii ad.....3v
M. Sig. Ten drops every twenty minutes, as directed.
Directions—Take every twenty minutes until pain is relieved; not, however, to exceed eight doses, and stop earlier if any tingling is felt in the tips of fingers. —*H. B. Whitney.*

Influence of Morphin on Evacuation of Urine.

Acute or chronic intoxication with morphin causes difficulty in the emission of urine, or complete retention in some cases. In recent experiments on guinea-pigs, *Munich Med. Woch.*, No. 26, the administration of morphin abolished the sphincter reflex until the urine accumulated in such amounts that rupture of the bladder walls was produced, preceded by the appearance of more or less blood in the urine from the extravasation of blood caused by the stretching of the walls.

False Croup.

For this, Dr. F. C. Rogers recommends apomorphin in doses of gr. 1/40 to 1/50 by the mouth in a little water, repeated every fifteen or twenty minutes until symptoms are relieved. This dose is for a child 5 years old. One or two doses are usually sufficient to check the attack without producing vomiting.

Constipation with Scanty and Defective Bile Secretion.

℞ Acidi arseniosi.....gr. i
Hydrargyri chloridi corrosivi.....gr. i
Pulveris ipecacuanhæ.....gr. ii
Hydrargyri chloridi mitis.....gr. xvi
M. Div in tab No. xv. Sig. One or two tablets daily
—*W. H. Porter.*

HABITUAL CONSTIPATION.

In the habitual constipation of delicate persons with feeble digestive organs:

℞ Ext. cascara sagradæ.....gr. ii
Ext. nucis vomicæ.....gr. 1/4
Ext. belladonnæ.....gr. 1/3
Pulveris capsici.....gr. 1/2
M. One such tabloid after food once daily should be taken; increased, if necessary, until two tabloids are taken thrice daily. This dose should be maintained until the habit of regular action is established, when the number should be gradually reduced and at length discontinued. Remedy the lack of fluids in the body by giving an abundance of water, either hot or cold.
—*Cutter.*

Deaths and Obituaries.

IRVING C. SCHUREMAN, M.D., Albany, N. Y., 1869, died at his home in Tom's River, N. J., of cardiac disease, August 6, aged 59 years. He was a Civil War veteran, and a member of several fraternal orders. A widow and four children survive him.

JOHN M. FLETCHER, M.D., Bowdoin,, Brunswick, Me., 1869, died at his home in Belfast, Me., August 7, aged 73 years. He had been governor and afterwards treasurer of the state.

NATHANIEL WILSON LEIGHTON, M.D., Bowdoin, 1857, and New York Medical College, 1858 (now extinct), died at his home in Brooklyn, N. Y., August 12, in the 66th year of his age.

JAMES F. JUDD, M.D., Jefferson, 1897, died in Philadelphia, August 5, aged 38 years. He was born in England.

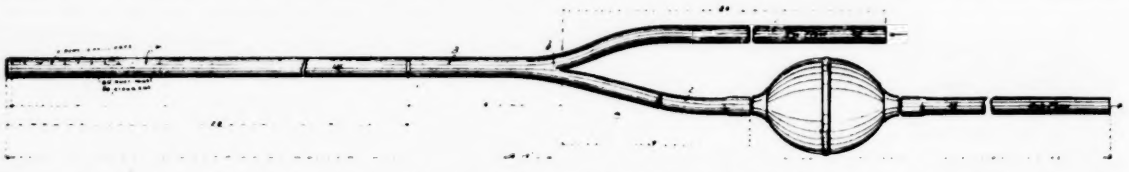
H. STANGEWALD, M.D., born in Dresden in 1829, and a graduate of the University of Vienna, died at his home in Nunana Valley on June 1, after a practice in Hawaii covering about forty years.

B. T. Crompton, M.D., Corydon, Ky., died August 10, aged 29 years....N. S. Freeman, M.D., Charleston, Ill., August 7, aged 70 years....John T. Ireland, M.D., Lower Marlboro, Md., August 4, aged 60 years....James T. Johnson, M.D., Huntsville, Ala., August 9, aged 68 years....Kline W. Lynn, Cortland, Ohio, August 7, aged 29 years....G. L. McClain, M.D., Arlington, Ga., August 1....W. H. Seaton, M.D., Indianapolis, Ind., August 6.

A Combined Stomach-Tube and Douche.

BY J. W. BELL, M.D.
Professor of Clinical Medicine and Clinical Diagnosis, Univ. of Minn.
MINNEAPOLIS, MINN.

The pressing need of a more satisfactory method of securing thorough gastric lavage, as well as a more efficient means of treating atonic conditions of the gastric mucosa and muscularis is my only apology for calling attention to a new combined gastric-tube and douche. The instrument consists simply of an inflow tube equal in size to two-fifths of the lumen of the entire tube, ending in a perforated jacket. This perforated jacket, corresponding to the last four inches of the gastric end of the tube, contains some seventy-two very small openings through which the water issues in very fine streams or a coarse spray with a force corresponding to the pressure or height of the column of water in the inflow tube. The outflow tube, corresponding in size to three-fifths of the lumen of the entire tube, simply performs the functions of an ordinary stomach-tube, draining the stomach of its contents, thus enabling the



small streams issuing from the small openings in the jacket to come in contact with and thoroughly cleanse all parts of the gastric mucosa. The perforated jacket is the only portion of the instrument original or new. This jacket proved a very troublesome problem for our rubber workers to solve, and allow sufficient space for the outflow. After many failures, extending over a period of nearly two years, they finally succeeded in making a satisfactory instrument. The following points are claimed for it:

1. The instrument is simple in construction and durable.

2. It thoroughly and efficiently cleanses and disinfects the stomach.

3. By means of the douche we are able to stimulate and tone the gastric mucosa and muscularis.

Miscellany.

Important Symptom in Chloroform Narcosis.—Lehmann states that if the eyelids close as the effect of the anesthetic is felt, the probabilities are that the narcosis will proceed smoothly. But if the eyelids remain partially or entirely open, or reopen if closed, trouble may be anticipated.—*Memorabilien*, July 19.

Right to Ride on Sidewalks.—Whatever may be said as to general rules of law prohibiting vehicles, including bicycles, on sidewalks, the supreme court of Iowa declares, in Wheeler vs. City of Boone, that it has yet to learn of any general or local law prohibiting the use of carriages operated by hand on sidewalks for the convenience of those unable to walk; and no law, it holds, should be given such effect by construction.

Criminal Abortion with no Vagina.—W. A. Freund recently served as expert in a case in which the woman was condemned to prison for feticide. There was no vagina and the uterus opened into the urethra, which was much dilated. Conception and expulsion of the uterus occurred per urethram. The abortion followed an injection into the bladder with criminal intent.—*Wiener Klin. Woch.*, July 20.

The Speculum Outside of the Office.—Our exchanges are copying the suggestions of Dr. Groussin, that the inconveniences of examining with the vaginal speculum without a table or chair for the purpose, can be obviated with a couple of stout cords, each tied into a loop made of a napkin. The loops are fitted over the knees, and the other end of the cord attached to the upper hinge of a door, or to a nail or screw driven in for the purpose, one on each side. The knees can thus be held flexed and in the correct position to facilitate examination.

Voluntary Overexertion.—The term "voluntary overexertion," in a policy of accident insurance, the supreme court of Nebraska holds, Rustin vs. Standard Life and Accident Insurance Company, means conscious or intentional overexertion, or a reckless disregard of consequences likely to ensue from great physical effort. For example, it can not be said as a matter of law, it maintains, in applying this doctrine, that the slight elevation of a 300-pound weight by a strong man accustomed to lifting is voluntary overexertion.

To Be Determined by Board.—Whether a diploma presented by one who desires a certificate authorizing him to practice medicine is from "a medical institution in good standing," the supreme court of Ohio holds, is to be determined, in the first instance, not by the court, but by the board of medical registration and examination. An institution incorporated for the purpose of "the education of suitable persons in the art and science of curing diseases by the use of air, baths, electricity, heat, magnetism, massage and all other resources of nature," it further holds, in State vs. Hygeia Medical College, does not offend against the law of its creation by imparting instruction concerning the administration of drugs.

Serotherapy in Pseudomembranous Conjunctivitis.—Pes found antidiphtheria serum remarkably effective in 13 cases—9 with Loeffler's bacillus pure and 4 associated—and warmly advocates its use to prevent tardy complications (paralysis of the ocular muscles), and facilitate the expulsion of the pseudomembrane, both as a preventive and cure, even when bacteriologic investigation is not possible.—*Revue Gen. d'Oph.*, July 31.

Tendon Suture in Injury from Circular Saw.—The saw had cut into the soft parts of the arm to the bone, and the wound had healed with the hand and fingers contracted, and the slightest movement exquisitely painful. Seven months later Gedeon reopened the wound and united the severed tendon stumps with silk sutures. In a month the pains had entirely disappeared and the hand and fingers had recovered full working capacity.—*Memorabilien.*

Not Bound to Have Amputation.—As a result of a casual difficulty in a saloon one man shot another in the left leg, just above the knee. Nine days thereafter the man so shot died. The man who fired the shot was convicted of manslaughter. In affirming the judgment, the court of criminal appeals of Texas holds, Franklin vs. State, that the refusal of the man shot to have his limb amputated could not be imputed to him as gross neglect or manifestly improper treatment. The physician's opinion that the man would have gotten well had he permitted the amputation, the court considers, was more or less speculative on his part. It did not understand the physician to say that in every case where the main artery of the leg is penetrated or cut, and the party does not immediately bleed to death, blood poisoning is bound to follow; and, unless such be the case, it declares, it could scarcely be said that the deceased was guilty of gross neglect or manifestly improper treatment by taking the chance of saving his limb, although he may have refused to take the advice of the physician in the matter.

Unlicensed Experts.—After a careful consideration of the subject, the court of appeals of New York says, in the case of People vs. Rice, that it has reached the conclusion that if a

man be in reality an expert on any given subject belonging to the domain of medicine, his opinion may be received by the court, although he has not a license to practice medicine. But such testimony, it goes on to state, should be received with great caution, and only after the trial court has become fully satisfied that on the subject as to which the witness is called for the purpose of giving an opinion he is fully competent to speak. Here, there was testimony adduced that the witness in question was a manufacturer of medicines, and the publisher of medical books, and the author of a medical book used throughout the United States by practicing physicians, and that he had pursued a study of medicine and of nervous diseases in connection with the course of study of medicine. Whether he had pursued this study one week or one year did not appear, or whether he has ever read an article on the subject of insanity, let alone studied the subject, did not appear. Nor was the subject of his book given, and therefore the court thinks that presumably it was not relating to insanity, so long as it was the object to qualify him as an expert on that subject. Such being the case, the court not only holds that he was not prima facie competent to express an opinion as an expert on the subject of insanity, because he had not been licensed to practice medicine, but insists that it is clear that, under the circumstances, the trial court was right in refusing to permit him to give his opinion as an expert on the subject of insanity. If he was an expert, it adds, that fact was not shown.

Physician's First Duty.—The first duty of American physicians is to join the AMERICAN MEDICAL ASSOCIATION and attend its meetings. It is hardly necessary to repeat what we have so often urged, that the ASSOCIATION is the gravitational center about which gather the unitizing tendencies and powers of the profession. It is plain to every one that our professional disunity is at present our greatest curse, and that it is the fundamental cause of our powerlessness in the face of the evils besetting us. Quackery, medical humbug, sectarianism, the nostrum shame, a hundred pseudomedical journals up for sale, and innumerable spawnings of medical delusions and fanaticisms—all these exist by our leave, and almost solely because of our disorganization. Far more than this, our awful death rate is almost the direct product of this same lack of unity. We have the knowledge whereby the American death-rate could be reduced one-half, but we have not the power to reduce it. We have not the power because we have no professional voice, no corporate unity, by which we can turn our knowledge into active prophylaxis, through the law-makers and administrative officers of the national state, and civic governments. If our population numbers now 70,000,000 and there are 10 unnecessary deaths each year per thousand, it follows that there are 70,000 deaths each year due to that professional negligence which is in reality a crime. We can not understand the logic of those who have no interest in medical sociology and public hygiene (preventive medicine) and who labor year after year in the hope of discovering the pathology of some rare disease, or the treatment of special diseases. We have, of course, no intention of underrating the value of abstract scientific study, for we know that ultimately all professional progress and power come from such science. But it is certain that at present scientific knowledge has outrun practical application, and we question only the logic of the sad neglect of actually saving lives in our extreme interest in the knowledge of how to save them. To effect this actual saving, it need hardly be added, is, however, the serious and earnest desire of the great bulk of the profession; what, then, hinders, if we do really know how to do it? There are many subordinate hindrances, but outweighing all combined is the fact we have emphasized, our professional disorganization. We can not turn our knowledge into facts, because we have no representative organization through which the whole body can speak, and by which influence may be brought to bear upon the social and governmental forces so negligent and even scornful of general life-saving.—*Phila. Med. Jour.*, August 12.

London.

(Special Correspondence.)

BRITISH MEDICAL ASSOCIATION.—The event of the week—and for that matter, the only midsummer event—in medical circles, was the meeting of the British Medical Association, which concluded its sessions at Portsmouth this afternoon—August 5. The transatlantic visitor could not but be impressed, however, with the fact that out of over seventeen thousand members, the register indicated an attendance of less than nine hundred and, further, that of those in attendance but relatively few seemed to find their way either to the general sessions or to the meetings of the sections. This could not be attributed to the committee on arrangements, for each member and visitor alike was given, not only a copy of the daily journal, but a guide-book and all necessary information relative to places and times of meetings. It may be said, indeed, that the work of the always hard-worked committee of arrangements could not well have been improved upon. If, therefore, the small registration had any particular significance it was that the meeting was held in the south end of England, to reach which required a journey of at least several hours—never of a whole day—but even this is a very formidable affair to the average English practitioner. On the other hand, if there seemed to be a lack of interest in the proceedings the fact was to be explained by the close proximity of Cowes and the Royal regatta, the attractions of which could not be resisted even by your correspondent. London representation was, as usual, conspicuous chiefly by its relative absence. The few distinguished gentlemen who came down from the metropolis—quite two hours away—tarried long enough to deliver themselves of their appointed tasks and scurried back to town in eager quest of guineas, or else to the Pyrenees, the Alps, or the fjords of Norway, in no less eager quest of pleasure. It may be added that so far as pleasure was concerned there was but little occasion to quit Portsmouth or South Sea—save to escape the disagreeable heat—for what as between warships and barracks and gunwharfs and military and naval hospitals, all so dear to British hearts—entertainments were launched with necessary impetus and éclat. A garden party given one afternoon by the Mayor of Portsmouth in the beautiful grounds of the borough asylum, was a delightful success, while those—a half dozen or so—given by distinguished citizens on their private grounds, to limited numbers, contributed equally to the pleasure of those who were fortunate enough to secure tickets. It was a conspicuous fact, work in all the sections was abandoned at 1 o'clock, and the afternoons given over entirely to social enjoyment. This impressed me as vastly more desirable than our own intensely work-a-day fashion of running our Sections morning, noon, and sometimes at night, as if the welfare of creation were resting on us and had to be settled, finally and definitely, before the President could announce a *sine die* adjournment of the AMERICAN MEDICAL ASSOCIATION.

America was as usual represented at the meeting. Among the more conspicuous guests from our own country was Dr. Daniel Lewis of New York, the editor of the *American Medical Review of Reviews*, whose interest in medicine is exceeded only by his enthusiasm for yachting. Dr. Ernest Laplace of Philadelphia was an interested participant in the proceedings of the surgical section. Dr. James Tyson, the distinguished professor of medicine at the University of Pennsylvania, was among the more notable of American visitors. Drs. Bilt, Brainard, Cole, Cushing, Hirschfelder, de Schweinitz, Hubbell, Reed, Kipp, Hutchinson, Lewis, McCrae, Snow and Jackson were the other American names on the guests' register. I have not alluded to Dr. Osler in this connection, who, by virtue of his former Canadian residence is a member, and who took an active part in the proceedings, and who, *on dit*, entertains very definite

London ambitions—a fact which, if well founded, will bring but little comfort at John Hopkins, where he has rendered such conspicuous service.

One familiar with the work of the AMERICAN MEDICAL ASSOCIATION can not but be impressed with the important functions exercised by the Council of our sister organization of Great Britain. This body—the Council—consists of nearly a hundred members, and exercises, *ad interim*, practically all the functions of the Association—indeed, it exercises a sort of veto power over the general organization in view of the fact that elections to membership in the Association seem to be made at the time of the meeting subject to subsequent action by the Council. In this way, no doubt, much more careful discrimination can be exercised in the selection of members than by the delegate and loose credential system in vogue in America.

The report of the Council for the present year indicates a membership of 17,746. As the total revenues were £42,924, and as the membership fee is a pound, it would seem that the *Journal* has a comfortable income from other quarters of £25,178. The expenditures are, however, very heavy, as they leave a balance of less than £5000. As a trustee of our JOURNAL, and one much interested in its success, I feel that the financial statement submitted at the Columbus meeting was very satisfactory, as compared with the one just submitted at Portsmouth. Another important fact relating to the welfare of the *British Medical Journal* is also found in the report of the Council. This relates to the continued organization of branches in different parts of the Empire: One has been organized at Perth in West Australia, which with the other five Australian branches furnishes an aggregate membership of 1109. The branches of South Africa and other colonies are reported as being "everywhere large, active and useful." Thus it becomes apparent that by a wise system of organization, the profession of the Empire is essentially unified and put into position for the effective protection and advancement not only of its own interests but those of the public that come properly within the purview of medical men. Other topics discussed in the report of Council are: "the library," which now contains 37,000 volumes; "instruction in tropical diseases;" "tuberculosis;" a controversy with the "London Chamber of Commerce;" various parliamentary questions; and obituary notices. It would seem from this that the functions of Council are varied and important. I feel that I can best illustrate their importance by giving one or two instances in detail. The London Chamber of Commerce made a grave accusation against the probity and integrity of the profession to the effect that "secret commissions" were received by medical men. The Council at once took up the question, demanding the facts on which it could proceed to punish offenders, but the London Chamber of Commerce was unable to furnish them, and as a consequence the imputations have fallen flat.

There is no system of medical registration in India, a fact which has been taken up with the Indian and Colonial office by the Council, with the prospect that the evil may be remedied. A more striking example of the beneficial influence of the Council is indicated in the following paragraph, taken from the report: "A complaint having been received from the Jamaica Branch that the Legislature in that colony had passed a law which compelled medical practitioners to notify infectious diseases under a penalty of 40s., but had failed to provide any payment for the duty thus imposed, the President of Council wrote to the Colonial Office, and again received a reply from the Right Honorable J. Chamberlain, stating that the Governor of Jamaica had been instructed to introduce a law to provide for the payment of fees to medical practitioners for notifying infectious diseases and to protect them from any legal consequences of such notification."

There is to-day, in the United States, a striking need for a legislative committee so constituted that by virtue of its representative character it can speak for and in the name of the great medical profession. Such a committee, to be effective, must be as small as may be consistent with its representative character. One might imagine such a committee made up of the president of the AMERICAN MEDICAL ASSOCIATION and the president of each state medical society, if each state medical society were only a branch—an integral part—an organic and constituent unit of the national organization—but such important changes must come slowly. The watchword with the AMERICAN MEDICAL ASSOCIATION, however, must be organization, organization, and still, organization!

It is manifestly out of the question to deal in detail with the proceedings of the Portsmouth meeting. Naturally keen interest centered in the annual address of the President, Dr. Ward Cousins, given in abstract in the JOURNAL, August 5, p. 355.

It was but natural that a discourse of such high ethical conceptions should not be appreciated by the lay press. The *Standard*, for instance, true to those instincts which permit it to become the avenue for the advertisement of nostrums whose effects are but little if any short of criminal, wrote an editorial review in which it sought to throw dust in the eyes of the public by carping against the medical profession, that it had not yet solved the millenium. Of course the medical, and for that matter the discriminating lay public, readily understood that the criticism was prompted by the counting-room. There was a sort of melancholy comfort, however, in observing this antagonism, for to an American it served to exemplify the companionship of misery. It must be admitted, however, that in the matter of prostituting their columns to the fabrications of nostrums, the reputable English papers are less serious offenders than are publications of corresponding position in the United States.

One of the most important contributions to the proceedings was by Prof. Alexander Ogston (see p. 474, ¶ 143), of the University of Aberdeen, who offered some severe strictures on the present status of the medical science in both the army and the navy. The revelations were in the nature of a surprise to one who had learned to look on all sorts of military and naval preparations in England as being in a state of perfection. To learn, therefore, that an under secretary for war had openly admitted that, in the event of a sudden precipitation of hostilities, making it necessary to organize two army corps, the government would not be in a position to furnish the requisite medical contingent, was certainly a communication from beyond the realm of the expected. Much fault was found with the rank and quarters furnished medical men, with the restrictions placed on them with regard to private work while on garrison duty, with the hospital accommodations, especially in the navy, with the pernicious habit of keeping surgeons for long periods at ports remote from the centers of medical progress, and with the policy. The address was received with profound attention and will doubtless result in a new task for the parliamentary committee.

My participation in the work of the sections was restricted to the section on gynecology, which was presided over by the distinguished Dr. George Granville Bantock of London—the Beau Brummel of the metropolitan profession. The late Mr. Lawson Tait was sorely missed, and his untimely demise was the occasion of many heartfelt regrets. On one day there was a discussion on the treatment of fever following delivery, with special referenceto serumtherapy, opened by a carefully prepared paper by Dr. Herbert Spencer—manifestly a coming man. The discussion which ensued was participated in more especially by the distinguished successor of Leischman, Prof. Murdoch Cameron of Glasgow, and by Prof. Mere Madden of Dublin, with the result, so far as I could determine, that the case as presented on the affirmative side by Dr. Spencer, was interesting as set forth, was important if true, but that it at present lacks confirmation. On another day Mr. Bland Sutton presented his well-known views on ovulation and menstruation in

their relation to the menopause. This he did in his graceful and masterly style by way of opening a discussion on the natural menopause as compared with: 1, that induced by the removal of both the uterine appendages and, 2, that induced by the removal of the uterus without the uterine appendages. There was but comparatively little discussion following the essay, but the lull seemed much like that which precedes the storm that one inevitably provokes when one has the temerity to entertain views at variance with those of general acceptance.

CHARLES A. L. REED, M.D.

Canada.

(From Our Regular Correspondent.)

August 12, 1899.

CANADIAN MEDICAL ASSOCIATION.—What promises to be the most successful meeting in the history of this Association is that which convenes in Toronto on August 30, as noted in the JOURNAL of August 12. An important discussion on "Dominion Registration," in which the Canadian practitioner in every part of the Dominion is vitally interested, will be introduced by Dr. T. G. Roddick of Montreal. Delegates will be present from every province in Canada, pledged to support this movement. The pathologic museum, in charge of a committee with Dr. A. Primrose of Toronto as chairman, will add much to the interest of the meeting. Already a great many specimens have arrived, and others are being rapidly contributed. The social part is being well looked after by a committee of arrangements with Dr. A. Jukes Johnson as chairman and Dr. Charles R. Dickson as secretary. This will include a garden party and musicale in the Normal School—where the meeting is to be held—and on its beautiful lawns, on the evening of the first day; a "tea" at the Royal Canadian Yacht Club (Island clubhouse); a smoking concert, tendered by the City Council, on one of the large vessels of the Niagara Navigation Company; and a visit to the Industrial Exhibition with reserved seats for members and their lady friends, in the grand stand, offered by the the Industrial Exhibition Association. Besides, there will also be numerous private entertainments.

POST-MORTEM WITHOUT AUTHORITY.—A case which has excited considerable interest and discussion in Ontario, and which has just been decided in favor of the defendants, was that of Davidson vs. Drs. A. H. Garratt, H. B. Anderson and W. H. Harris, all well-known practitioners in good standing in Toronto. Having been called suddenly to see the wife of the plaintiff, Dr. Garratt had at once responded, only to find the woman dead on his arrival. He telephoned the coroner and was subsequently instructed by that officer, through the same medium, to perform a post-mortem examination. Taking with him Drs. Anderson and Harris, they proceeded to the residence and were admitted by the plaintiff's own son. The heart only had been examined when the husband entered and demanded their authority. The Ontario laws require this in writing, but custom was otherwise, so the doctors had no written authority. The coroner had previously withdrawn his warrant for an inquest, but had not notified Dr. Garratt of his action. Hence, suit was entered for damages to trespass to land, and in the assize court $600 and costs assessed against the defendants An appeal was immediately taken in the High Court (Divisional). Here the verdict in the lower court was reversed, the appeal granted with costs, and the action dismissed with costs. Counsel for plaintiff argued that because the law was consistently ignored in the matter of written authority from the county attorney to the coroner, and further from the coroner to the doctor performing the post-mortem, custom superseding it, it was no excuse for the physicians doing as they had done. This, Justice Rose of the High Court considered nonsensical and perfectly ridiculous, and thought that when a doctor was ordered by a coroner to perform a post-mortem he should do it, and not go scurrying around hunting up the law on the subject.

END OF MONTREAL CLINICAL SOCIETY.—The Montreal Clinical Society *non est inventus*. For several years past the Society has been in a declining condition. This was no fault of the officers; they were full of enthusiasm, but the rank and file had lost interest, so it was decided to close up its affairs. The idea was subsequently carried out in a very happy manner. The last general meeting took the form of a supper in Elm Hall, Westmount, where forty-five members gathered, and, amid a glorious carnival of refreshment, sang their death song.

MEDICAL MEETINGS AND DOMINION REGISTRATION.—Down by the sea, in the maritime provinces—New Brunswick, Nova Scotia, Cape Breton and Prince Edward Island—all the annual meetings of the societies have been held. They proved successful in every respect. In his annual address before the Medical Society of Nova Scotia, held in the Normal School Building, Truro, the president, Dr. John McMillan of Pictou, advocated a very important issue—one which forces itself on the consideration of the profession in that section of the Dominion, viz., the need of a properly organized statistical bureau, and the establishment of a sanitorium for the treatment of tuberculosis. A more efficient regulation of vaccination than at present in vogue, was ably contended for by Dr. Jones of Halifax, and an animated discussion ensued on the subject. The Maritime Medical Association meeting was well patronized, and an excellent program presented. Nova Scotia especially sent a large delegation to this meeting, while P. E. I. was not far behind in the point of numerical representation. It was the ninth annual meeting, and opened on July 12 in the Legislative Assembly, Charlottetown, P. E. I. Dr. Robert T. Morris of New York delivered an address on "Peritoneal Adhesions," while Dr. James Bell's (Montreal) contribution of "Several Unusual Cases in Abdominal Surgery with History and Treatment" added somewhat to that gentleman's reputation as one of Canada's foremost surgeon's. The address of welcome was delivered by Lieutenant-Governor McIntyre, a medical man; and the occupant of the mayor's chair in Charlottetown, who contributed much to the social entertainment of the visitors, is also a member of the profession. The garden party at Government House; the pleasant excursion on the harbor; and the dinner at the Hotel Davies reflected much credit on the local committee of arrangements. Dr. Roddick was present at all the meetings, advocating "Dominion Registration." Dr. MacNeill, president of this Association, in referring to this subject, spoke of the good work that the eleven medical colleges in Canada were doing in medical education, and said that for years past the Canadian Medical Association had been endeavoring to educate the people as well as the profession, on the necessity of having one qualification for all Canada. He stated that at the last meeting of that Association, in Quebec, P.Q., the basis of uniformity of curriculum was agreed on, and Dr. Roddick was intrusted with the matter to perfect and complete. We look to him as the Cæsar to lead us across the provincial Rubicon, and have established in Canada—what? The University of Canada or the College of Physicians and Surgeons of Canada? Or the Dominion Medical Council? By the accomplishment of this scheme, students graduating and having obtained licenses to practice in one province will be spared the examinations and the expenses of further examinations and licensing in other provinces.

DEATHS FROM PUERPERAL FEVER.—Some little attention to statistics in regard to puerperal fever in the Province of Ontario may be interesting. During 1897, in an urban population of 436,996, there were 9,037 births, and 29 deaths from this disease, a mortality-rate of 0.32 per 1,000. In the cities of Brantford, Windsor, Chatham and St. Thomas there were no deaths from this disease, while in Guelph the rate was 0.77; Stratford, 0.74; Ottawa, 0.7; Belleville, 0.66, their respective birth-rates to 1,000 living persons being respectively 23.1, 13.2, 27.1, and 14.3. Hamilton makes a good showing with a percentage of 0.01; London, 0.18; Toronto, 0.26. In the whole province, out of 47,323 births, 185 deaths are reported from this dis-

ease, one death from puerperal fever to 255 births. The greatest number of deaths from puerperal fever in 1897 occurred in parts of Ontario where the confinements took place without medical assistance. As for instance, in Algoma, four deaths occurred. Here something like 52 per cent. of the labors were unattended by physicians. In the county of Brant no deaths occurred, and only about 3.1 per cent. of the births were unattended by physicians. So also in the county of Bruce, 20.72 per cent. of the labors were unattended by physicians, and there were seven deaths recorded. Contrasting the rural with the urban population, the total deaths occurring in cities registers 15.67 per cent. The urban population is 19.13 per cent. of the total provincial population.

Queries and Minor Notes.

REJECTIONS FOR TOBACCO HEART.

OMAHA, NEB., August 9, 1899.

To the Editor:—Was there an official statement, or authenticated report published stating the cause of rejection by our army recruiting officers, among applicants who desired to join the ranks of the Spanish-American War? I have scanned the index of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in vain, yet I certainly read some place that about 90 per cent. of the rejections were based on tobacco heart. If published, where can I find it? If not published, how can I get the facts?

J. M. A.

ANSWER:—The above query we referred to an official in the office of the surgeon-general, who replies as follows: "No official statement or authenticated report has been published stating the cause of rejection by our army recruiting officers among applicants for enlistment during the Spanish-American War. It is doubtful whether a full tabulation of all the causes of rejection will ever be made. The papers relating to volunteers were filed in the adjutant-general's office, and that office has but little concern for the condition of men who were not accepted. Certain of the papers relating to regulars were filed in the office of the surgeon-general and as it has been customary for this officer to present in his annual reports tabulations of the causes of rejection among candidates for enlistment, he will probably have such a table in his forthcoming report. That 90 per cent. of the rejections were based upon tobacco heart may have been an exaggerated expression of the experience of some medical examiner who had but a few cases before him. The annual report of the surgeon-general for the year ended June 30, 1898, gives the recruiting statistics for the previous calendar year. From these we learn that of 3492 rejections, 362, or a little over 10 per cent., were occasioned by diseases of the circulatory system. To what extent tobacco heart may have figured in the causation of the 362 rejections is not known, as the tabulation does not go into specific details."

BRONCHIAL CALCULI.

CHICAGO, August 14, 1899.

To the Editor:—In re your remarks on bronchial calculi (JOURNAL, Aug. 12, 1899, p. 434), if your correspondent will consult Hoffmann, Krankheiten der Bronchien, in "Nothnagel's Spec. Path. u. Therap." (Wien., 1896, pp. 58-64), he will find a fair résumé of our existing knowledge of this affection, together with reference to a few articles in the literature.

EDWARD F. WELLS, M.D.

The Public Service.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending August 12, 1899:

Medical Inspector J. R. Waggener, promoted to medical inspector from April 9, 1899.

Medical Inspector T. H. Streets, promoted to medical inspector from April 16, 1899.

Surgeon T. A. Berryhill, promoted to surgeon from April 9, 1899.

Surgeon E. P. Stone, promoted to surgeon from April 16, 1899.

P. A. Surgeon J. M. Moore, ordered to the *Vermont*, August 10.

Asst.-Surgeon B. L. Wright, detached from the *Vermont* and ordered to duty with the 2d marine battalion for Manila, P. I., and on arrival at Manila to report to the commander-in-chief of the Asiatic Station for duty.

P. A. Surgeon W. F. Arnold, granted extension of sick leave for one month.

P. A. Surgeon G. Pickerell, authorized to drop middle initial of name.

P. A. Surgeon G. Pickrell, detached from the *Baltimore* and ordered to the *Monterey* and to the Cavite Naval Station.

Asst.-Surgeon H. H. Haas, detached from the *Oregon* and ordered to the naval hospital, Yokohama, Japan, for treatment.

Marine-Hospital Changes.—Official List of Changes of Station, and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended August 3, 1899.

Surgeon Eugene Wasdin, to proceed to National Soldiers' Home, Va., for special temporary duty.

P. A. Surgeon G. M. Magruder, so much of Bureau order of July 31, 1899, directing P. A. Surgeon Magruder to proceed to Hampton, Va., revoked and directed to proceed to Richmond and Newport News, Va., for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Hampton, Va., and report to Surgeon J. H. White for special temporary duty.

P. A. Surgeon A. C. Smith, leave of absence granted by Bureau letter of June 20, 1899, revoked and directed to rejoin station at Norfolk, Va.

P. A. Surgeon W. G. Stimpson, so much of Bureau order of July 31, 1899, directing P. A. Surgeon Stimpson to proceed to Fort Monroe, Va., revoked, and directed to proceed to Newport News, Va., and report by wire to Surgeon J. H. White Hampton, Va., for orders.

P. A. Surgeon Rupert Blue, to proceed to Columbus City, Washington, for special temporary duty.

P. A. Surgeon E. K. Sprague, leave of absence granted by Bureau letter of July 27, 1899, revoked.

P. A. Surgeon W. H. Wickes, leave of absence granted by Bureau letter of July 27, 1899, revoked.

Asst.-Surgeon R. H. von Ezdorf, to report to Surgeon J. H. White at Hampton, Va., for special temporary duty.

Asst.-Surgeon L. D. Fricks, relieved from duty at the South Atlantic Quarantine Station and directed to proceed to Hampton, Va., and report by wire for further orders.

Asst.-Surgeon F. J. Thornbury, relieved from duty at New York, N. Y., and directed to proceed to Baltimore, Md., and report to the commanding officer for duty and assignment to quarters.

Acting Asst.-Surgeon L. C. Dean, granted leave of absence for fourteen days from August 4, 1899.

Acting Asst.-Surgeon L. P. Gibson, granted leave of absence for ten days.

Acting Asst.-Surgeon R. H. McGinnis, granted leave of absence for three weeks from August 7, 1899.

Acting Asst.-Surgeon H. McD. Martin, granted leave of absence for thirty days on account of sickness.

Acting Asst.-Surgeon A. W. Smith, to proceed to Fortress Monroe, Va., and report to Surgeon W. J. Pettus, for special temporary duty.

Sanitary Inspector John C. Rodman, granted leave of absence for four days.

Hospital Steward W. W. Kolb, to proceed to Hampton, Va., and report to Surgeon J. H. White for special temporary duty.

Hospital Steward F. H. Peck, to proceed to Fortress Monroe, Va., and report to Surgeon W. J. Pettus for special temporary duty.

Hospital Steward H. E. Davis, to proceed to Baltimore, Md., and report to commanding officer for temporary duty.

Temporary Hospital Steward E. T. Olsen, relieved from duty at Chicago, Ill., and directed to proceed to Wilmington, N. C., and report to commanding officer for duty and assignment to quarters.

RESIGNATION.

Acting Asst.-Surgeon S. C. de Krafft, resignation accepted to take effect July 15, 1899.

APPOINTMENTS.

B. W. Goldsborough of Maryland, appointed acting asst.-surgeon, U. S. Marine-Hospital Service, for duty at Cambridge, Md.

Temporary Junior Hospital Steward Egil T. Olsen appointed junior hospital steward from May 29, 1899.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended August 12, 1899:

SMALLPOX—UNITED STATES.

Kentucky: Louisville, July 26 to August 2, 5 cases.
Louisiana: New Orleans, July 22 to 29, 3 cases.
Massachusetts: Boston, July 29 to August 5, 1 case.
Ohio: Columbus, July 29 to August 5, 1 case; Dayton, July 29 to August 5, 1 case.
Washington: Spokane, July 22 to 29, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, July 8 to 22, 4 cases, 2 deaths.
Brazil: Rio de Janeiro, June 15 to 30, 32 deaths.
Colombia: Panama, July 25 to August 1, 1 case, 1 death.
Egypt: Cairo, June 24 to July 15, 7 deaths.
England: London, July 8 to 15, 1 death.
Greece: Athens, July 15 to 22, 11 cases, 3 deaths.
India: Calcutta, June 24 to July 1, 1 death.
Netherlands: Rotterdam, July 15 to 22, 1 case.
Russia: Odessa, July 8 to 22, 9 cases, 4 deaths; St. Petersburg, July 8 to 22, 15 cases, 6 deaths.
Turkey: Erzeroum, July 8 to 15, 2 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 15 to 30, 15 cases.
Cuba: Manzanillo, July 13 to 20, 1 case, 1 death; Matanzas, July 26 to August 2, 1 case, doubtful; Santiago, July 15 to 22, 12 cases, 2 deaths.

CHOLERA.

India: Calcutta, June 24 to July 1, 7 deaths.

PLAGUE.

Egypt: Alexandria, from outbreak to July 9, 65 cases, 32 deaths.
India: Calcutta, June 24 to July 1, 6 deaths.
Straits Settlements: Penang, January 1 to June 30, 42 cases, 33 deaths.

CHANGE OF ADDRESS.

Burnard, H. W., from 9139 to 9215 Commercial Ave, Chicago.
Cuthbertson, Wm., from 189 41st St. to 4553 Ellis Ave, Chicago.
Fisher, Geo. C., from 3000 Indiana Ave to 6303 Monroe Ave, cor. 63d St., Chicago.
Holman, Carl Johnson, from Granite Falls, Minn. to the Norwegian Lutheran Hospital, cor. Thomas and Francisco Sts., Chicago.
Kirby, H. W., from Airheart, to Paris Block, Cripple Creek, Colo.
Knowles, W. F., from Hotel Berkeley to 220 Clarendon St., cor. Newberry St., Boston, Mass.
Laine, Surg. Major D. T., from Philadelphia, Pa. to Division of Cuba, Havana, Cuba.
Love, I. N., from 3507 Olive St. to 4661 Maryland Ave, St. Louis, Mo.
McCurdy, J. R., from Philadelphia to Monongahela, Pa.
Malsbury, C. E., from 23 East 7th St. to 1631 Sycamore St., Cincinnati, Ohio.
Marshall, O. R., from Moody to Godley, Texas.
Muffe, F. P., from 428 Kearney to 1616 Sacramento St., San Francisco, Cal.
Newlon, C. S., from Altamont to Winfield, Kan.
Shields, W. B., from 4661 Maryland to 3556 Olive St., St. Louis, Mo.
Spangler, C. F., from York to Kane, Pa.
White, S. C., from Sandwich, Ill. to Kansas City, Mo.
Whalen, C. J., from 225 Dearborn Ave to Luzerne Hotel, Station A, Chicago.